

AD-A048 933

AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OHIO F/G 20/1  
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 89. T-2C AIRC--ETC(U)  
JUN 77 R G POWELL

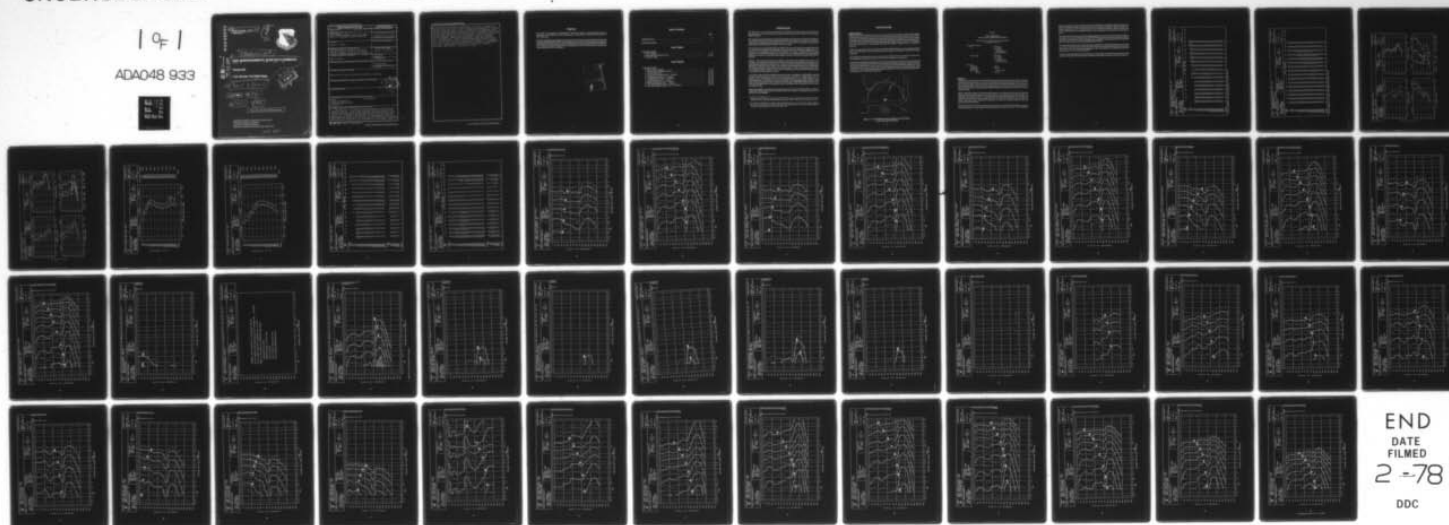
UNCLASSIFIED

AMRL-TR-75-50-VOL-89

NL

191

ADAO48 933



END  
DATE  
FILMED  
2-78  
DDC

AD A 048933

14 AMRL-TR-75-50-VOL-89  
Volume 89

2  
NW



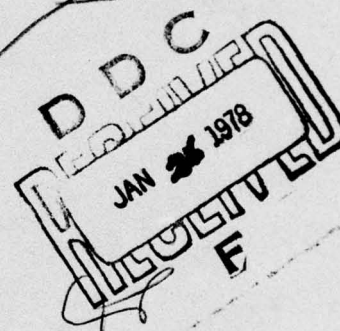
9 Technical rept.,

6

USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK

Volume 89.

T-2C Aircraft, Far-Field Noise.



10 Robert G. Powell

11 JUN 77

12 54 p.

16 7231

17 04

Approved for public release; distribution unlimited.

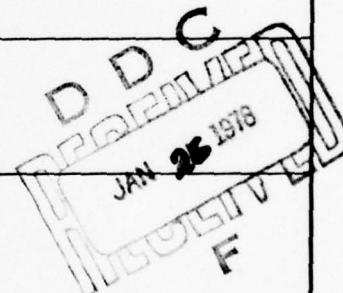
AEROSPACE MEDICAL RESEARCH LABORATORY  
AEROSPACE MEDICAL DIVISION  
AIR FORCE SYSTEMS COMMAND  
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

009 850

mt

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AMRL-TR-75-50, Vol. 89	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) USAF BIOENVIRONMENTAL NOISE DATA HAND- BOOK: T-2C Aircraft, Far-Field Noise	5. TYPE OF REPORT & PERIOD COVERED Volume 89 of a series	
	6. PERFORMING ORG. REPORT NUMBER	
7. AUTHOR(s) Robert G. Powell	8. CONTRACT OR GRANT NUMBER(s)	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Aerospace Medical Research Laboratory Aerospace Medical Division, Air Force Systems Command, Wright-Patterson AFB, OH	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 62202F 7231-04-33	
11. CONTROLLING OFFICE NAME AND ADDRESS Same as above	12. REPORT DATE June 1977	
	13. NUMBER OF PAGES 54	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report) Unclassified	
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
16. DISTRIBUTION STATEMENT (of this Report)  Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Noise T-2C Aircraft Noise Environments Bioenvironmental Noise Aircraft		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The USN T-2C is a trainer aircraft powered by two J85-GE-4A turbojet engines. This report provides far-field measured and extrapolated data defining both physical and psychoacoustic measures of the bioacoustic environments produced by this aircraft operating on a ground runup pad for two engine/power conditions. Far-field data measured at 16 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to		



derive sets of equal-value contours as a function of angle and distance from the source. These contours are measures of: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application", AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. ↑



## PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723104, Measurement and Prediction of Noise Environments of Air Force Operations.

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report Capt Nick Farinacci, Mr. Harald Hille, and Mr. Jerry Speakman for their assistance in acquiring the raw data, Mr. Keith Kettler, Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton for assistance in the mechanics of data processing, and Mrs. Peggy Massie and Mr. Mike Patterson for assistance in typing and preparation of the graphics.

ADDRESS	1
1 IS	File Section <input checked="" type="checkbox"/>
2 IS	Buff Section <input type="checkbox"/>
3 IS	Buff Section <input type="checkbox"/>
4 IS	
5 IS	
6 IS	
7 IS	
8 IS	
9 IS	
10 IS	
11 IS	
12 IS	
13 IS	
14 IS	
15 IS	
16 IS	
17 IS	
18 IS	
19 IS	
20 IS	
21 IS	
22 IS	
23 IS	
24 IS	
25 IS	
26 IS	
27 IS	
28 IS	
29 IS	
30 IS	
31 IS	
32 IS	
33 IS	
34 IS	
35 IS	
36 IS	
37 IS	
38 IS	
39 IS	
40 IS	
41 IS	
42 IS	
43 IS	
44 IS	
45 IS	
46 IS	
47 IS	
48 IS	
49 IS	
50 IS	
51 IS	
52 IS	
53 IS	
54 IS	
55 IS	
56 IS	
57 IS	
58 IS	
59 IS	
60 IS	
61 IS	
62 IS	
63 IS	
64 IS	
65 IS	
66 IS	
67 IS	
68 IS	
69 IS	
70 IS	
71 IS	
72 IS	
73 IS	
74 IS	
75 IS	
76 IS	
77 IS	
78 IS	
79 IS	
80 IS	
81 IS	
82 IS	
83 IS	
84 IS	
85 IS	
86 IS	
87 IS	
88 IS	
89 IS	
90 IS	
91 IS	
92 IS	
93 IS	
94 IS	
95 IS	
96 IS	
97 IS	
98 IS	
99 IS	
100 IS	
101 IS	
102 IS	
103 IS	
104 IS	
105 IS	
106 IS	
107 IS	
108 IS	
109 IS	
110 IS	
111 IS	
112 IS	
113 IS	
114 IS	
115 IS	
116 IS	
117 IS	
118 IS	
119 IS	
120 IS	
121 IS	
122 IS	
123 IS	
124 IS	
125 IS	
126 IS	
127 IS	
128 IS	
129 IS	
130 IS	
131 IS	
132 IS	
133 IS	
134 IS	
135 IS	
136 IS	
137 IS	
138 IS	
139 IS	
140 IS	
141 IS	
142 IS	
143 IS	
144 IS	
145 IS	
146 IS	
147 IS	
148 IS	
149 IS	
150 IS	
151 IS	
152 IS	
153 IS	
154 IS	
155 IS	
156 IS	
157 IS	
158 IS	
159 IS	
160 IS	
161 IS	
162 IS	
163 IS	
164 IS	
165 IS	
166 IS	
167 IS	
168 IS	
169 IS	
170 IS	
171 IS	
172 IS	
173 IS	
174 IS	
175 IS	
176 IS	
177 IS	
178 IS	
179 IS	
180 IS	
181 IS	
182 IS	
183 IS	
184 IS	
185 IS	
186 IS	
187 IS	
188 IS	
189 IS	
190 IS	
191 IS	
192 IS	
193 IS	
194 IS	
195 IS	
196 IS	
197 IS	
198 IS	
199 IS	
200 IS	
201 IS	
202 IS	
203 IS	
204 IS	
205 IS	
206 IS	
207 IS	
208 IS	
209 IS	
210 IS	
211 IS	
212 IS	
213 IS	
214 IS	
215 IS	
216 IS	
217 IS	
218 IS	
219 IS	
220 IS	
221 IS	
222 IS	
223 IS	
224 IS	
225 IS	
226 IS	
227 IS	
228 IS	
229 IS	
230 IS	
231 IS	
232 IS	
233 IS	
234 IS	
235 IS	
236 IS	
237 IS	
238 IS	
239 IS	
240 IS	
241 IS	
242 IS	
243 IS	
244 IS	
245 IS	
246 IS	
247 IS	
248 IS	
249 IS	
250 IS	
251 IS	
252 IS	
253 IS	
254 IS	
255 IS	
256 IS	
257 IS	
258 IS	
259 IS	
260 IS	
261 IS	
262 IS	
263 IS	
264 IS	
265 IS	
266 IS	
267 IS	
268 IS	
269 IS	
270 IS	
271 IS	
272 IS	
273 IS	
274 IS	
275 IS	
276 IS	
277 IS	
278 IS	
279 IS	
280 IS	
281 IS	
282 IS	
283 IS	
284 IS	
285 IS	
286 IS	
287 IS	
288 IS	
289 IS	
290 IS	
291 IS	
292 IS	
293 IS	
294 IS	
295 IS	
296 IS	
297 IS	
298 IS	
299 IS	
300 IS	
301 IS	
302 IS	
303 IS	
304 IS	
305 IS	
306 IS	
307 IS	
308 IS	
309 IS	
310 IS	
311 IS	
312 IS	
313 IS	
314 IS	
315 IS	
316 IS	
317 IS	
318 IS	
319 IS	
320 IS	
321 IS	
322 IS	
323 IS	
324 IS	
325 IS	
326 IS	
327 IS	
328 IS	
329 IS	
330 IS	
331 IS	
332 IS	
333 IS	
334 IS	
335 IS	
336 IS	
337 IS	
338 IS	
339 IS	
340 IS	
341 IS	
342 IS	
343 IS	
344 IS	
345 IS	
346 IS	
347 IS	
348 IS	
349 IS	
350 IS	
351 IS	
352 IS	
353 IS	
354 IS	
355 IS	
356 IS	
357 IS	
358 IS	
359 IS	
360 IS	
361 IS	
362 IS	
363 IS	
364 IS	
365 IS	
366 IS	
367 IS	
368 IS	
369 IS	
370 IS	
371 IS	
372 IS	
373 IS	
374 IS	
375 IS	
376 IS	
377 IS	
378 IS	
379 IS	
380 IS	
381 IS	
382 IS	
383 IS	
384 IS	
385 IS	
386 IS	
387 IS	
388 IS	
389 IS	
390 IS	
391 IS	
392 IS	
393 IS	
394 IS	
395 IS	
396 IS	
397 IS	
398 IS	
399 IS	
400 IS	
401 IS	
402 IS	
403 IS	
404 IS	
405 IS	
406 IS	
407 IS	
408 IS	
409 IS	
410 IS	
411 IS	
412 IS	
413 IS	
414 IS	
415 IS	
416 IS	
417 IS	
418 IS	
419 IS	
420 IS	
421 IS	
422 IS	
423 IS	
424 IS	
425 IS	
426 IS	
427 IS	
428 IS	
429 IS	
430 IS	
431 IS	
432 IS	
433 IS	
434 IS	
435 IS	
436 IS	
437 IS	
438 IS	
439 IS	
440 IS	
441 IS	
442 IS	
443 IS	
444 IS	
445 IS	
446 IS	
447 IS	
448 IS	
449 IS	
450 IS	
451 IS	
452 IS	
453 IS	
454 IS	
455 IS	
456 IS	
457 IS	
458 IS	
459 IS	
460 IS	
461 IS	
462 IS	
463 IS	
464 IS	
465 IS	
466 IS	
467 IS	
468 IS	
469 IS	
470 IS	
471 IS	
472 IS	
473 IS	
474 IS	
475 IS	
476 IS	
477 IS	
478 IS	
479 IS	
480 IS	
481 IS	
482 IS	
483 IS	
484 IS	
485 IS	
486 IS	
487 IS	
488 IS	
489 IS	
490 IS	
491 IS	
492 IS	
493 IS	
494 IS	
495 IS	
496 IS	
497 IS	
498 IS	
499 IS	
500 IS	
501 IS	
502 IS	
503 IS	
504 IS	
505 IS	
506 IS	
507 IS	
508 IS	
509 IS	
510 IS	
511 IS	
512 IS	
513 IS	
514 IS	
515 IS	
516 IS	
517 IS	
518 IS	
519 IS	
520 IS	
521 IS	
522 IS	
523 IS	
524 IS	
525 IS	
526 IS	
527 IS	
528 IS	
529 IS	
530 IS	
531 IS	
532 IS	
533 IS	
534 IS	
535 IS	
536 IS	
537 IS	
538 IS	
539 IS	
540 IS	
541 IS	
542 IS	
543 IS	
544 IS	
545 IS	
546 IS	
547 IS	
548 IS	
549 IS	
550 IS	
551 IS	
552 IS	
553 IS	
554 IS	
555 IS	
556 IS	
557 IS	
558 IS	
559 IS	
560 IS	
561 IS	
562 IS	
563 IS	
564 IS	
565 IS	
566 IS	
567 IS	
568 IS	
569 IS	
570 IS	
571 IS	
572 IS	
573 IS	
574 IS	
575 IS	
576 IS	
577 IS	
578 IS	
579 IS	
580 IS	
581 IS	
582 IS	
583 IS	
584 IS	
585 IS	
586 IS	
587 IS	
588 IS	
589 IS	
590 IS	
591 IS	
592 IS	
593 IS	
594 IS	
595 IS	
596 IS	
597 IS	
598 IS	
599 IS	
600 IS	
601 IS	
602 IS	
603 IS	
604 IS	
605 IS	
606 IS	
607 IS	
608 IS	
609 IS	
610 IS	
611 IS	
612 IS	
613 IS	
614 IS	
615 IS	
616 IS	
617 IS	
618 IS	
619 IS	
620 IS	
621 IS	
622 IS	
623 IS	
624 IS	
625 IS	
626 IS	
627 IS	
628 IS	
629 IS	
630 IS	
631 IS	
632 IS	
633 IS	
634 IS	
635 IS	
636 IS	
637 IS	
638 IS	
639 IS	
640 IS	
641 IS	
642 IS	
643 IS	
644 IS	
645 IS	
646 IS	
647 IS	
648 IS	
649 IS	
650 IS	
651 IS	
652 IS	
653 IS	
654 IS	
655 IS	
656 IS	
657 IS	
658 IS	
659 IS	
660 IS	
661 IS	
662 IS	
663 IS	
664 IS	
665 IS	
666 IS	
667 IS	
668 IS	
669 IS	
670 IS	
671 IS	
672 IS	
673 IS	
674 IS	
675 IS	
676 IS	
677 IS	
678 IS	
679 IS	
680 IS	
681 IS	
682 IS	
683 IS	
684 IS	
685 IS	
686 IS	
687 IS	
688 IS	
689 IS	
690 IS	
691 IS	
692 IS	
693 IS	
694 IS	
695 IS	
696 IS	
697 IS	
698 IS	
699 IS	
700 IS	
701 IS	
702 IS	
703 IS	
704 IS	
705 IS	
706 IS	
707 IS	
708 IS	
709 IS	
710 IS	
711 IS	
712 IS	
713 IS	
714 IS	
715 IS	
716 IS	
717 IS	

## Table of Contents

	<i>Page</i>
INTRODUCTION .....	3
FAR-FIELD NOISE .....	4

## List of Tables

FAR-FIELD NOISE	
1. Test Conditions .....	5
2. Measured Sound Pressure Level .....	7-8
3. Directivity Index .....	13-14

## List of Figures

FAR-FIELD NOISE	
1. Measurement Locations .....	4
2. Normalized Far-Field Noise Levels .....	9-10
3. Acoustic Power Level .....	11-12
4. Overall Sound Pressure Level — Contours .....	15-16
5. C-Weighted Sound Level — Contours .....	17-18
6. A-Weighted Sound Level — Contours .....	19-20
7. Perceived Noise Level — Contours .....	21-22
8. Speech Interference Level — Contours .....	23-24
9. Permissible Exposure Time — Contours .....	25-32
10. Octave Band Sound Pressure Level — Contours .....	33-50

## INTRODUCTION

The USN T-2C is a trainer aircraft powered by two J85-GE-4A turbojet engines. The aircraft was manufactured by the Columbus Division of Rockwell International and the engines by the General Electric Company.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the T-2C aircraft.

This volume is one of a series published by the AMRL under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of military aircraft and ground support equipment. The far-field, community-type, noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVAN 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1) Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.
2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.

## FAR-FIELD NOISE

### MEASUREMENTS

AMRL acquired the far-field data during a 1-hour test period, thus keeping similar meteorological conditions throughout the test. Figure 1 shows the ground runup area (taxiway), ground cover, aircraft orientation and microphone measurement sites on the semicircle. The center of the 75 meter radius semicircle used in surveying the J85-GE-4A engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both engines, exhaust-nozzle exits. The ground runup area did not have a blast deflector; therefore, the engines' exhausts were in a "free-flow" condition.

Table 1 provides cockpit readouts of engine characteristics (RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All microphone measurement sites are in the acoustic far-field of the source where the sound wavefronts spherically diverge and the noise source may be regarded as a point source.

A portable microphone/tape-recorder system was used to sequentially record the noise at each far-field location. The microphone was attached to a hand held pole, pointed at the source ( $0^\circ$  angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. These samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

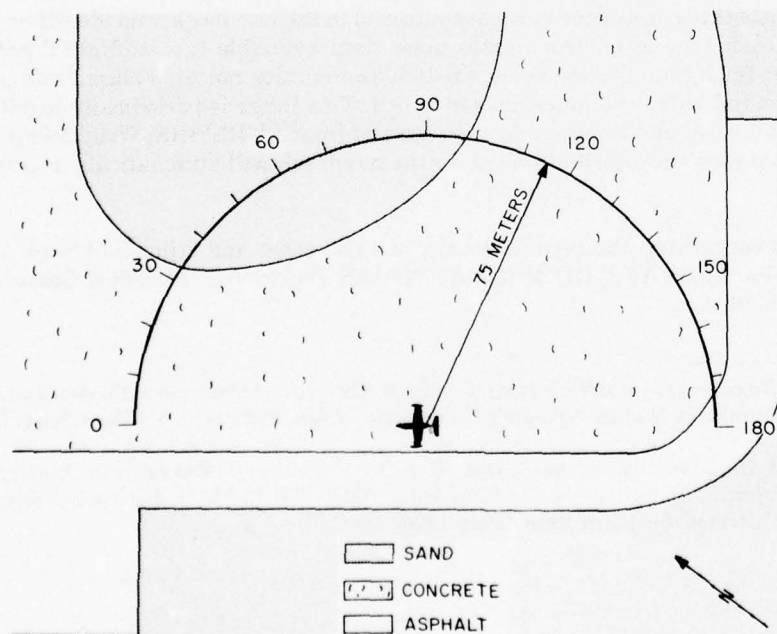


Figure 1. Far-Field Measurement Locations on the Taxiway at ALF, San Clemente Island



TABLE 1  
TEST CONDITIONS  
FOR FAR-FIELD NOISE MEASUREMENTS

T-2C Aircraft, Ground Runups, ALF, San Clemente Island  
Tail #158888, 19 May 1973

<i>Aircraft Engine Operation</i>	
Idle	Both Engines 50 % RPM 31.5 Inches Hg, Engine Pressure 640 LBS/HR, Fuel Flow
Military Power	Both Engines 100 % RPM 65.6 Inches Hg, Engine Pressure 2675 LBS/HR, Fuel Flow
<i>Meteorology</i>	
Temperature	15.6 C
Bar Pressure	0.762 M Hg
Rel Humidity	87 %
Wind — Speed	3.1 M/Sec (6 KTS)
— Direction	240 Deg

## RESULTS

Table 2 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 2 which provides a compact summary of the far-field noise characteristics of the T-2C aircraft in a standard format.

Figure 3 and Table 3 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

Estimates of the noise levels for intermediate power settings (e.g., 85% RPM) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

Figures 4 through 10 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables. No data are presented at the 160/170/180 locations for either power setting because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these angles are 10 to 20 dBA below the level measured at the preceding microphone location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 2, idle power).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																	IDENTIFICATION:		
1/3 OCTAVE BAND																	OMEGA 1.4		
DISTANCE = 75 METERS																	TEST 75-002-043		
NOISE SOURCE/SUBJECT:																	RUN 01		
( OPERATION:																	METEOROLOGY:		
( IDLE POWER																	TEMP = 16 C		
( 50% RPM																	BAR PRESS = .762 M HG		
( BOTH ENGINES																	REL HUMID = 87 %		
( FREE FLOW																	PAGE 2		
T-2C AIRCRAFT																	09 MAY 75		
J85-GE-4A ENGINE																			
FAR FIELD NOISE																			
FREQ																	ANGLE (DEGREES)		
(HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25																			
31.5																			
40																			
50																			
63																			
80	62<	63<	64<	66	66	68	68	68	68	68	68	68	68	68	68	68	68	68	64<
100	66<	66<	67	72	73	76	74	72	75	76	76	80	82	81	83	79			64<
125	65	65	68	70	69	71	70	70	72	73	74	77	78	80	79	75			74
160	69	71	72	71	69	73	72	73	73	74	75	78	79	79	77	71			75
200	67	68	70	71	67	71	70	71	71	72	77	78	78	78	75	69			71
250	67	69	68	69	69	69	69	68	70	70	75	77	78	78	74	66			66
315	68	68	69	68	68	67	68	67	70	69	74	75	76	75	72	65			62
400	66	66	69	68	67	65	69	67	70	68	74	75	76	74	68	62			65
500	67	66	68	68	66	65	68	68	70	66	73	75	76	72	67	61			61
630	66	66	68	69	67	65	68	68	70	68	74	76	77	76	68	64			63
800	66	66	66	66	69	66	65	68	67	63	71	75	75	73	68	63			63
1000	69	69	69	71	68	66	68	68	69	55	72	74	74	69	66	59			59
1250	70	70	70	72	69	67	69	69	69	66	73	75	74	69	65	58			58
1600	77	75	75	75	73	70	72	71	69	64	72	74	73	68	63	57			57
2000	76	76	74	75	74	72	71	71	69	65	72	73	72	67	62	57			57
2500	73	74	72	75	73	71	72	71	68	64	72	73	72	67	61	57			57
3150	74	74	73	75	72	71	73	71	69	64	72	72	71	66	62	58			58
4000	89	90	90	88	86	82	81	79	71	68	73	73	72	68	65	59			59
5000	79	80	80	80	78	75	75	73	67	63	70	70	70	65	61	56			56
6300	74	77	75	76	75	72	72	70	66	61	69	68	67	62	59	55			55
8000	83	86	83	84	83	80	78	77	71	65	74	72	71	66	63	59			59
10000	71	73	71	72	72	69	68	67	63	56	65	64	64	58	55	50<			50<
OVERALL	91	92	92	91	89	87	86	85	83	83	87	88	89	88	87	83			83

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)		IDENTIFICATION:																		
1/3 OCTAVE BAND																				
DISTANCE = 75 METERS																				
NOISE SOURCE/SUBJECT:																				
( OPERATION:																				
( MILITARY POWER																				
( 100% RPM																				
( BOTH ENGINES																				
( FREE FLOW																				
T-2C AIRCRAFT																				
J85-GE-4A ENGINE																				
FAR FIELD NOISE																				
TEMP = 16 C																				
BAR PRESS = .762 M HG																				
REL HUMID = 87 %																				
PAGE 2																				
FREQ (HZ)		ANGLE (DEGREES)																		
		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	84	72	78	78	73	74	74	85	80	76	76	79	81	81	86	88	89			
31.5	83	76	78	78	76	78	77	84	81	78	78	78	82	84	86	89	88			
40	81	77	80	78	78	79	86	86	84	82	80	82	83	87	91	93	91			
50	78	78	77	78	79	79	83	83	82	82	80	83	84	87	90	91	90			
63	79	80	79	81	80	81	84	84	83	84	83	84	88	91	94	94	89			
80	78	79	79	80	81	82	84	84	84	84	83	87	91	93	96	94	89			
100	82	82	83	84	84	84	86	86	86	86	86	89	94	97	100	96	88			
125	82	83	84	86	85	85	85	86	87	87	87	92	97	101	100	95	85			
160	84	85	86	87	86	86	86	87	88	90	90	93	99	103	102	91	82			
200	84	85	87	88	87	88	88	88	90	91	92	96	103	106	103	86	81			
250	88	90	92	91	90	90	90	91	92	94	93	99	107	109	105	91	84			
315	91	91	94	93	91	92	93	94	95	96	95	102	109	111	106	98	84			
400	91	93	94	95	92	93	94	95	95	96	96	104	110	111	106	97	84			
500	90	92	93	94	92	94	94	95	95	96	96	105	110	109	104	92	85			
630	91	93	94	95	94	94	94	96	97	97	97	105	110	110	105	91	87			
800	91	95	94	96	94	95	98	98	98	98	97	105	110	108	103	91	87			
1000	95	98	98	97	96	96	96	98	99	99	99	106	111	108	102	92	88			
1250	94	97	99	98	97	97	97	99	99	100	97	106	110	107	101	94	86			
1600	92	96	99	99	99	98	97	101	101	101	98	105	109	106	100	93	85			
2000	88	94	96	97	96	96	100	100	100	101	98	105	108	106	99	91	85			
2500	86	92	94	95	95	95	99	99	99	100	97	104	107	104	98	89	83			
3150	83	89	91	92	92	91	96	96	96	98	96	103	106	103	96	88	82			
4000	82	88	90	91	91	91	95	95	96	97	94	101	104	102	95	89	80			
5000	80	86	88	89	89	89	94	94	94	96	92	99	102	99	91	85	76			
6300	78	83	85	86	86	86	91	92	94	90	97	101	98	90	81	75				
8000	77	82	83	84	84	84	88	88	89	91	89	96	100	97	90	80	74			
10000	71	77	79	80	80	81	84	84	85	88	84	90	97	92	85	74	69			
OVERALL	102	105	107	107	106	106	106	109	109	110	108	116	120	120	115	107	100			

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.



FIGURE: NORMALIZED FARFIELD NOISE LEVELS

2 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

T-2C AIRCRAFT  
J85-GE-4A ENGINE  
FAR FIELD NOISE

OPERATIONS:

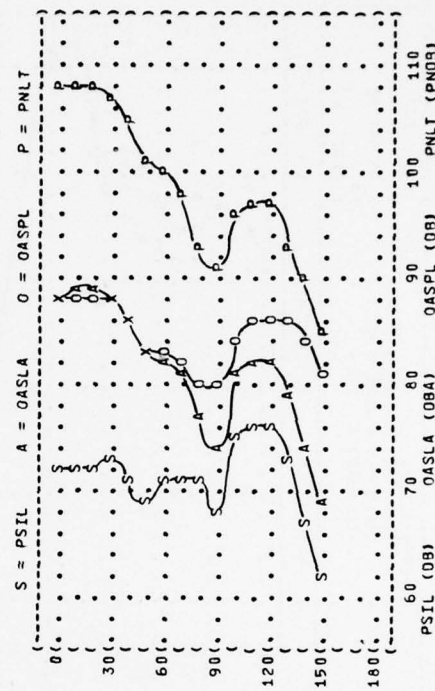
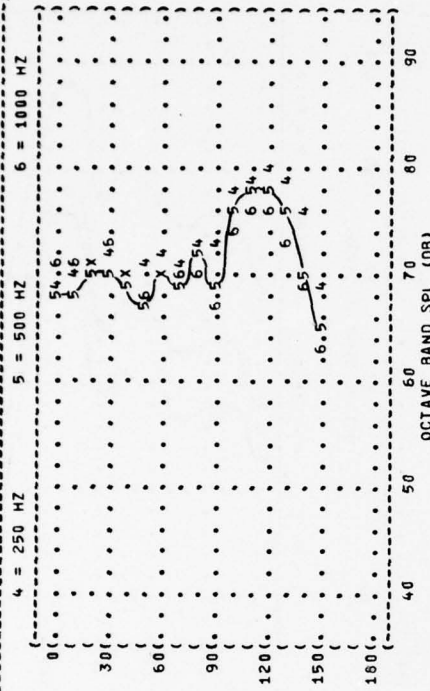
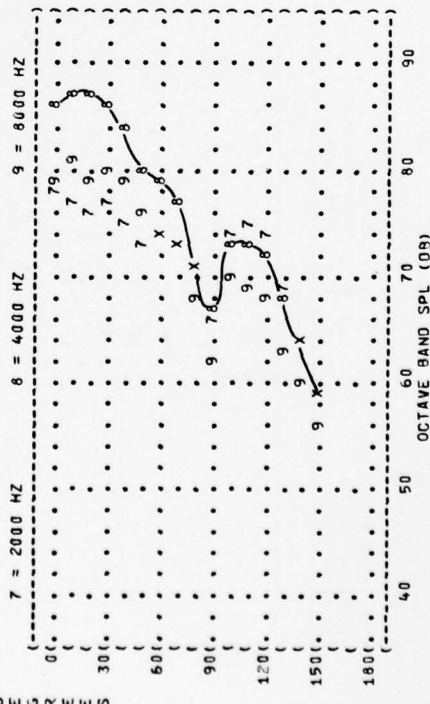
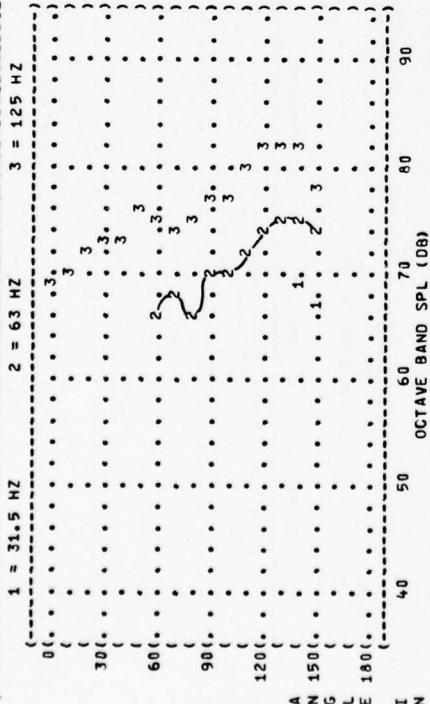
IDLE POWER  
50% RPM  
BOTH ENGINES  
FREE FLOW

METEOROLOGY:

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4  
TEST 75-002-043  
RUN 01  
09 MAY 75  
PAGE 6



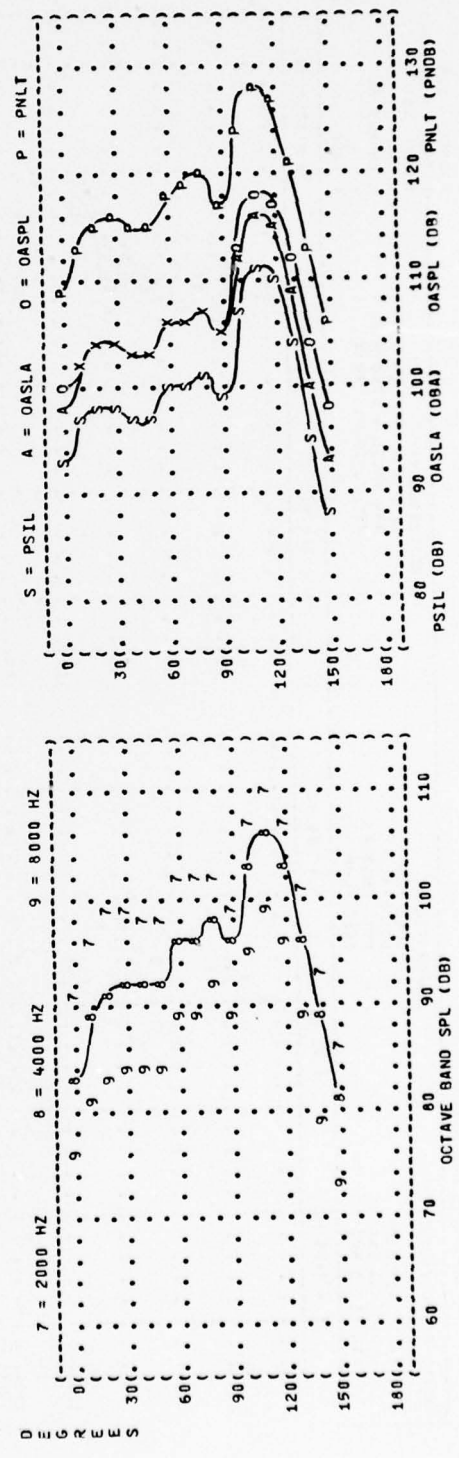
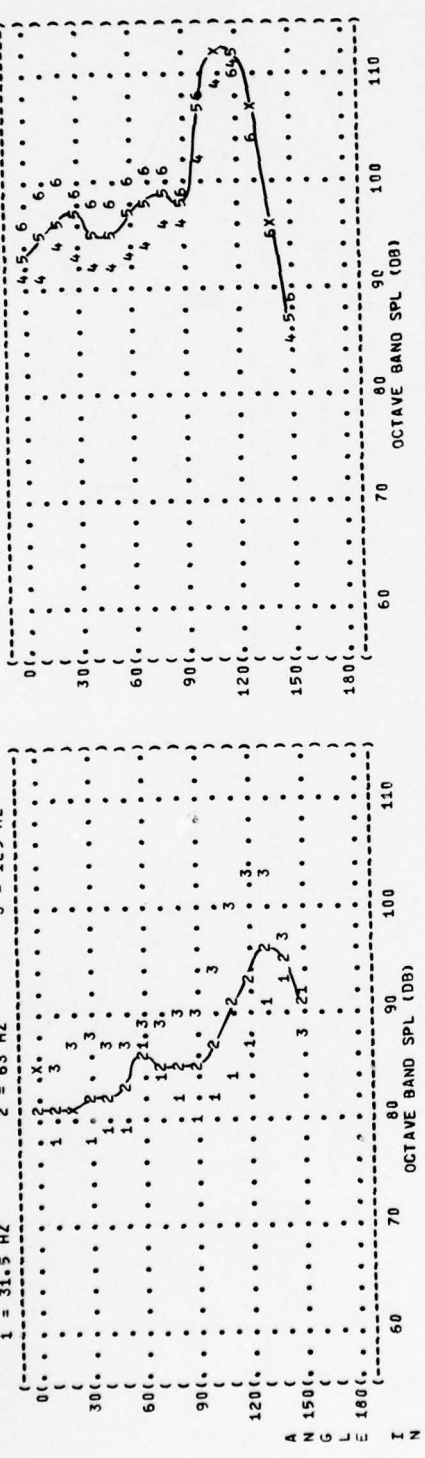
IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-002-943  
 RUN 02  
 09 MAY 75  
 PAGE 6

METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %

OPERATION:  
 MILITARY POWER  
 100% RPM  
 BOTH ENGINES  
 FREE FLOW

NOISE SOURCE/SUBJECT:  
 T-2C AIRCRAFT  
 J85-GE-4A ENGINE  
 FAR FIELD NOISE

DISTANCE = 100 METERS



PSIL (DB)  
 OASLA (DB)  
 OASPL (DB)  
 PNLT (PNDB)

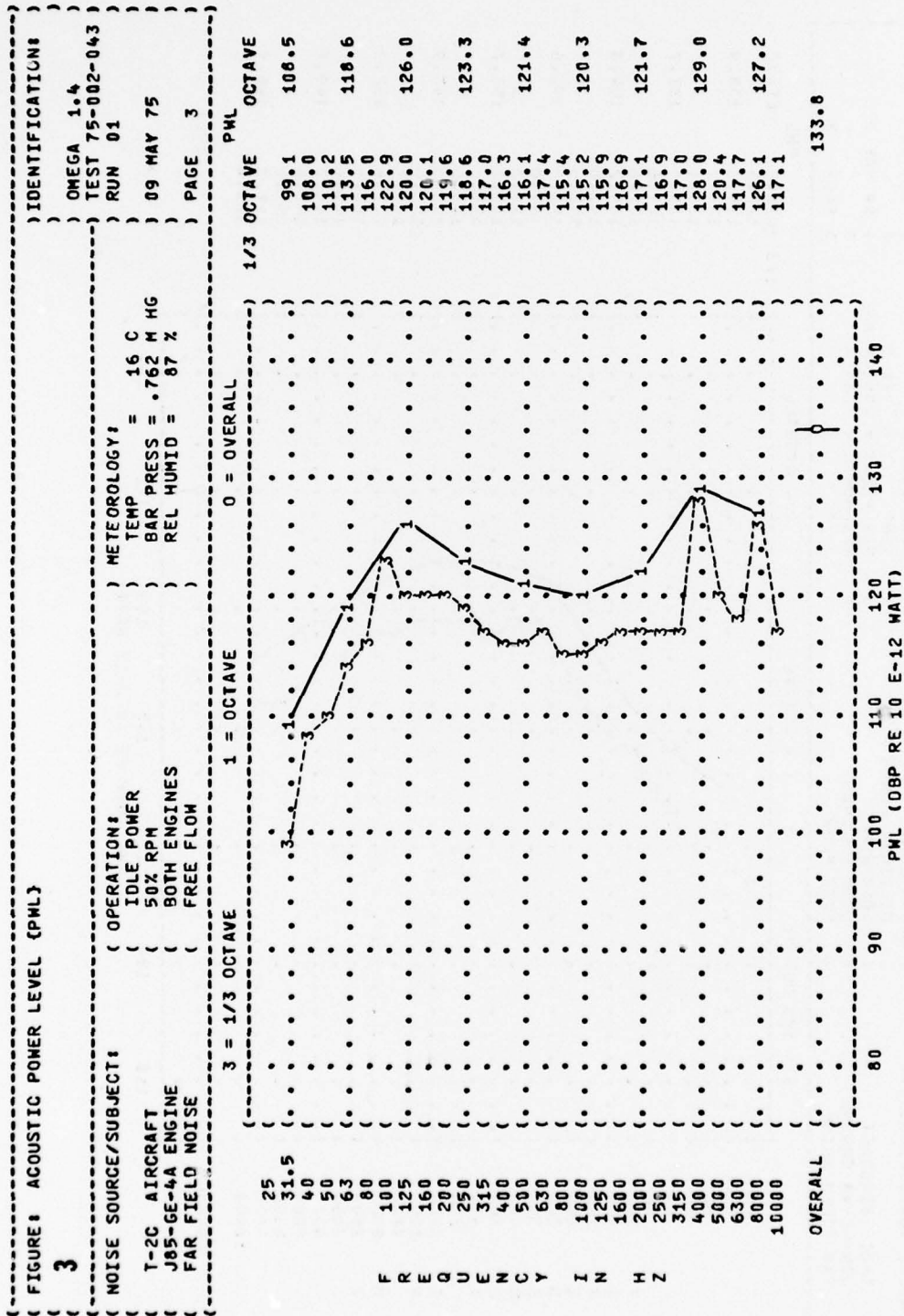


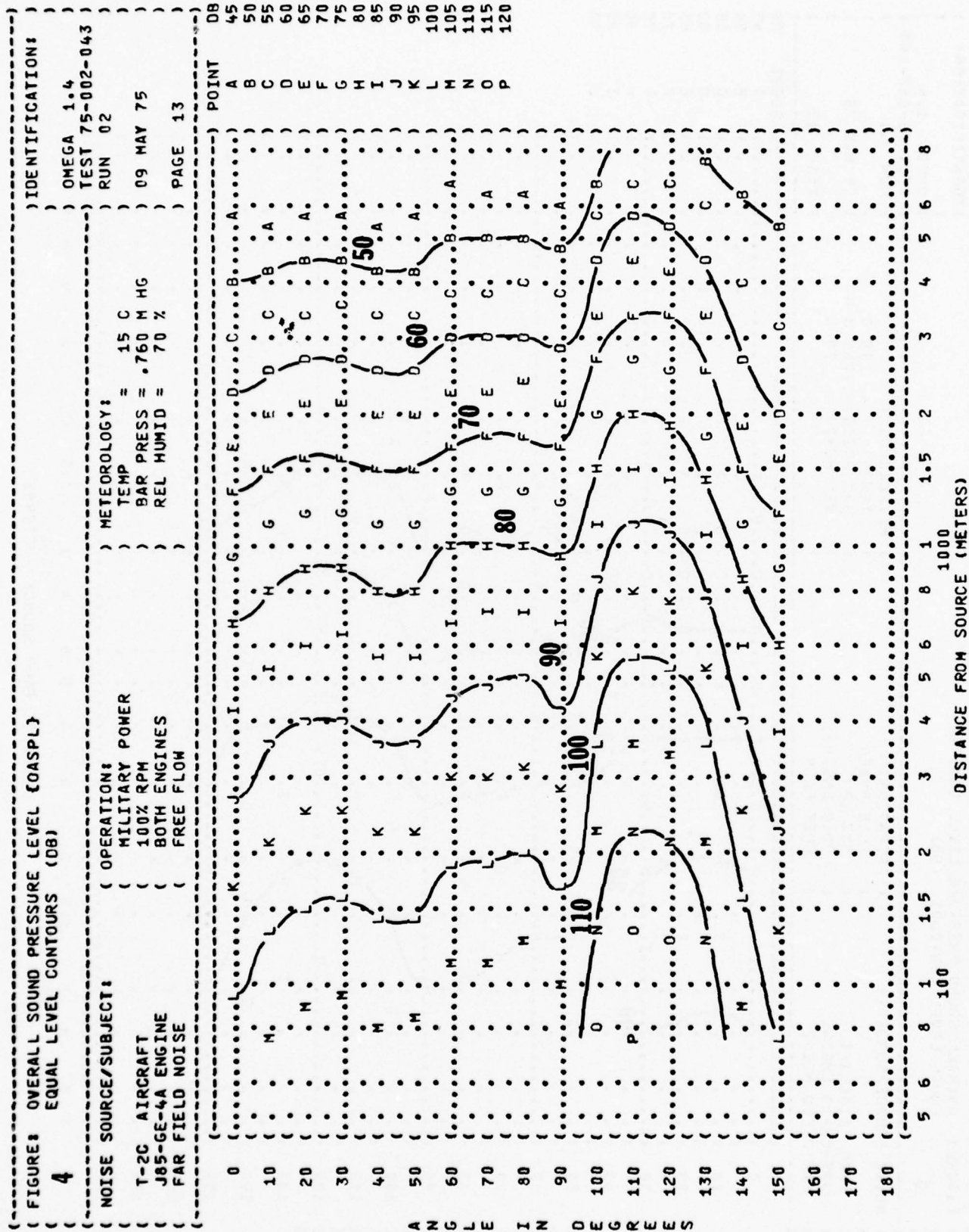




TABLE: DIRECTIVITY INDEX (DB)																
3																
NOISE SOURCE/SUBJECT:																
T-2C AIRCRAFT																
J85-GE-4A ENGINE																
FAR FIELD NOISE																
FREQ																
(HZ)																
ANGLE (DEGREES)																
1/3 OCTAVE																
25																
31.5																
40																
50																
63																
80																
100																
125																
160																
200																
250																
315																
400																
500																
630																
800																
1000																
1250																
1600																
2000																
2500																
3150																
4000																
5000																
6300																
8000																
10000																
OCTAVE																
31.5																
63																
125																
250																
500																
1000																
2000																
4000																
8000																
OVERALL																
3																
IDENTIFICATION:																
OMEGA 1.4																
TEST 75-002-043																
RUN 01																
09 MAY 75																
PAGE 4																

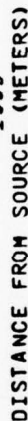
TABLE# DIRECTIVITY INDEX (DB)										IDENTIFICATION:									
3										OMEGA 1.4									
NOISE SOURCE/SUBJECT:										TEST 75-002-043									
T-2C AIRCRAFT										RUN 02									
J85-GE-4A ENGINE										09 MAY 75									
FAR FIELD NOISE										PAGE 4									
FREQ (HZ)										ANGLE (DEGREES)									
1/3 OCTAVE																			
25	1	-10	-5	-9	-8	-9	-2	-6	-7	-3	-2	-1	4	5	7				
31.5	-0	-7	-5	-7	-5	-6	1	-2	-5	-5	-1	1	3	6	5				
40	-5	-9	-6	-8	-8	-7	-0	-2	-4	-4	-3	1	5	7	5				
50	-7	-7	-8	-7	-6	-6	-2	-3	-3	-5	-1	2	5	6	5				
63	-8	-8	-8	-7	-8	-6	-4	-4	-4	-4	0	3	6	6	2				
80	-11	-10	-10	-9	-8	-8	-5	-5	-6	-6	2	4	7	5	-0				
100	-10	-11	-10	-9	-9	-9	-7	-6	-6	-7	2	5	7	4	-4				
125	-12	-11	-10	-8	-9	-9	-8	-7	-7	-3	4	7	6	1	-9				
160	-11	-11	-9	-9	-9	-9	-8	-8	-6	-3	4	7	7	-5	-14				
200	-14	-13	-11	-10	-12	-10	-10	-8	-7	-3	4	8	5	-12	-17				
250	-13	-12	-10	-10	-12	-12	-11	-9	-8	-9	6	8	4	-10	-17				
315	-13	-12	-10	-10	-12	-11	-10	-10	-8	-1	5	8	3	-5	-20				
400	-13	-11	-10	-9	-12	-11	-10	-9	-8	0	6	7	2	-7	-20				
500	-13	-11	-10	-9	-11	-9	-8	-8	-7	2	7	6	1	-11	-18				
630	-13	-10	-10	-9	-10	-10	-7	-7	-7	1	7	6	1	-13	-17				
800	-12	-8	-9	-8	-9	-8	-5	-5	-5	2	7	5	-0	-12	-17				
1000	-8	-6	-5	-6	-7	-8	-5	-4	-5	3	7	5	-1	-11	-15				
1250	-9	-6	-4	-5	-6	-6	-4	-4	-3	3	7	4	-2	-9	-17				
1600	-10	-6	-3	-3	-4	-5	-2	-2	-2	3	6	4	-2	-3	-11				
2000	-14	-8	-6	-5	-6	-6	-2	-1	-4	3	6	4	-3	-11	-17				
2500	-14	-8	-6	-6	-6	-5	-2	-2	-0	3	6	3	-3	-11	-17				
3150	-16	-11	-8	-8	-8	-8	-4	-3	-2	3	7	4	-3	-11	-17				
4000	-16	-10	-8	-7	-7	-7	-3	-2	-1	3	6	4	-3	-9	-18				
5000	-15	-9	-7	-6	-7	-6	-2	-2	0	3	6	3	-4	-10	-19				
6300	-16	-11	-9	-8	-8	-9	-3	-2	-0	3	7	4	-4	-13	-19				
8000	-16	-11	-10	-9	-9	-9	-5	-4	-2	3	7	4	-3	-13	-19				
10000	-16	-12	-10	-9	-9	-8	-5	-4	-1	1	8	3	-4	-15	-20				
OCTAVE																			
31.5	-2	-9	-5	-8	-7	-7	1	-2	-4	-6	-2	0	4	6	5				
63	-9	-9	-9	-8	-7	-7	-4	-4	-5	-3	1	3	6	6	2				
125	-11	-11	-10	-9	-9	-9	-8	-7	-6	-7	3	6	7	0	-8				
250	-13	-12	-10	-10	-12	-11	-10	-9	-8	-2	5	8	3	-7	-18				
500	-13	-11	-10	-9	-11	-10	-8	-8	-7	1	7	7	1	-9	-18				
1000	-10	-6	-6	-6	-7	-7	-5	-5	-4	2	7	5	-1	-11	-16				
2000	-12	-7	-5	-4	-5	-5	-2	-2	-1	3	6	4	-3	-10	-17				
4000	-16	-10	-8	-7	-7	-7	-3	-3	-1	3	7	4	-3	-10	-18				
8000	-16	-11	-9	-8	-8	-8	-4	-4	-4	3	7	4	-4	-13	-19				
OVERALL																			
	-12	-9	-7	-7	-8	-8	-5	-5	-4	-6	2	6	1	-7	-14				







DBC	POINT
0	A
10	B
20	C
30	D
40	E
50	F
60	G
70	H
80	I
90	J



```

( ( FIGURE: C-WEIGHTED OVERALL SOUND LEVEL {OASLC}
( EQUAL LEVEL CONTOURS (DBC)
(
( 5
(
(-----)
( ( NOISE SOURCE/SUBJECT: ( OPERATION: ( METEOROLOGY:
( ( T-2C AIRCRAFT ( MILITARY POWER ( TEMP = 15 C
( ( J85-GE-4A ENGINE ( 100% RPM ( BAR PRESS = .760 M HG
( ( FAR FIELD NOISE ( BOTH ENGINES ( REL HUMID = 70 %
( ( ( FREE FLOW ( )
( )
( ) IDENTIFICATION:
( )
( ) OMEGA 1.4
( )
( ) TEST 75-002-043
( ) RUN 02
( )
( ) 09 MAY 75
( )
( ) PAGE 14
( )
(-----)

```





FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)  
 EQUAL LEVEL CONTOURS (DBA)

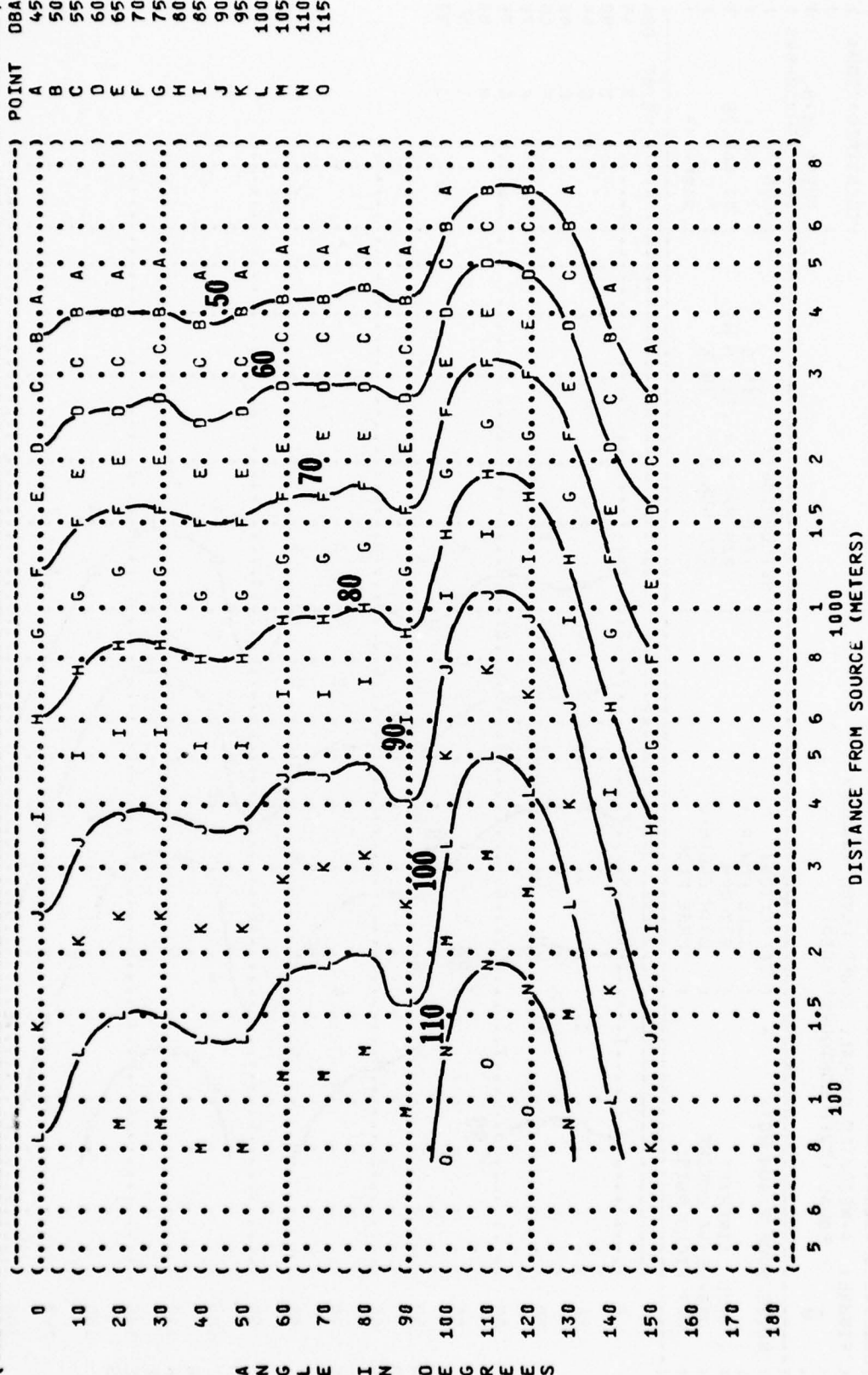
6

IDENTIFICATION:  
 OMEGA 1.4  
 TEST 75-002-043  
 RUN 02  
 09 MAY 75  
 PAGE 15

NOISE SOURCE/SUBJECT:  
 T-2C AIRCRAFT  
 J85-GE-4A ENGINE  
 FAR FIELD NOISE

OPERATION:  
 MILITARY POWER  
 100% RPM  
 BOTH ENGINES  
 FREE FLOW

METEOROLOGY:  
 TEMP = 15 C  
 BAR PRESS = .760 M HG  
 REL HUMID = 70 %

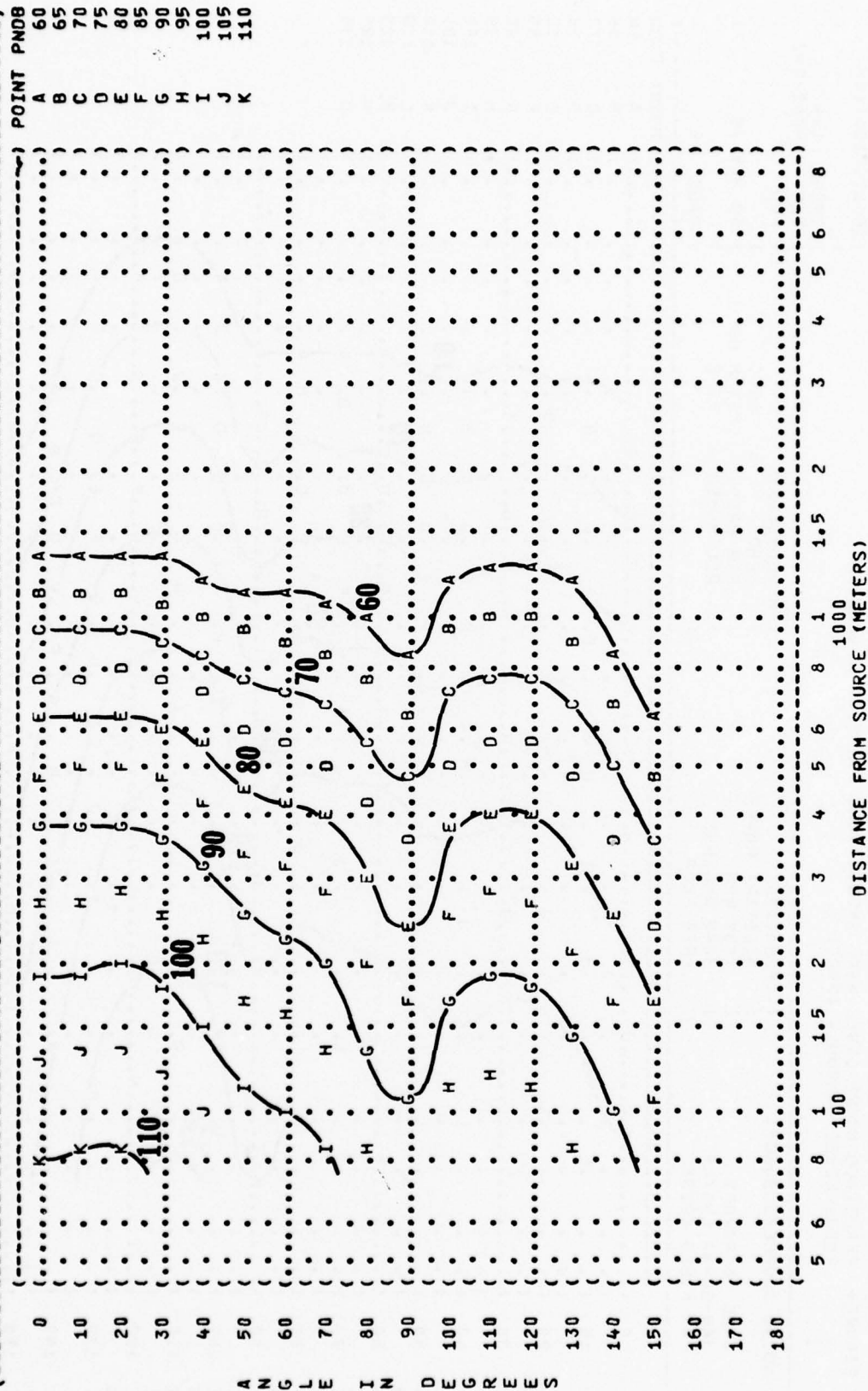


POINT DBA  
 A 45  
 B 50  
 C 55  
 D 60  
 E 65  
 F 70  
 G 75  
 H 80  
 I 85  
 J 90  
 K 95  
 L 100  
 M 105  
 N 110  
 O 115

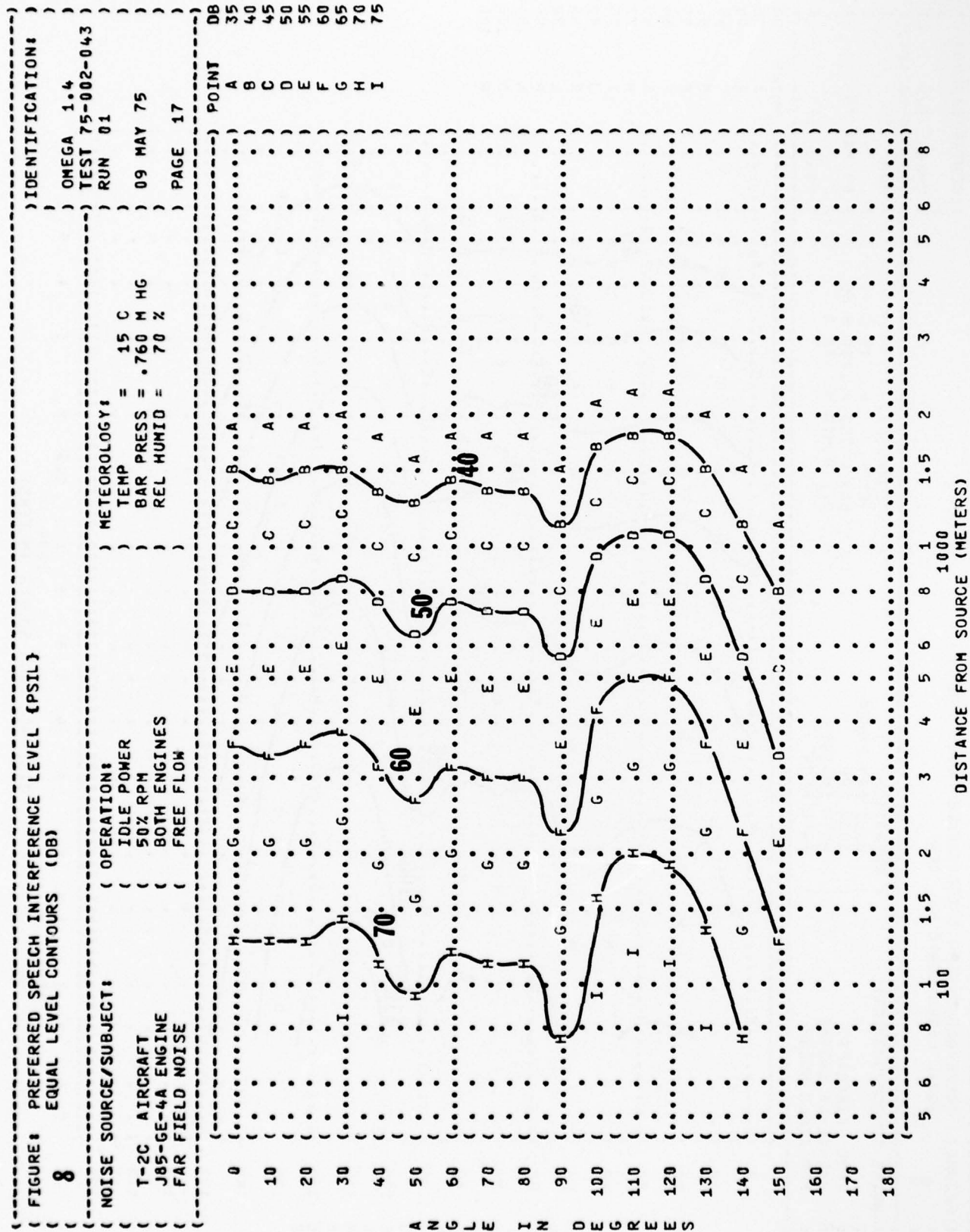
DISTANCE FROM SOURCE (METERS)



( FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)  
 ( 7 EQUAL LEVEL CONTOURS (PNDB)  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-043  
 ( ) RUN 01  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 H HG  
 ( ) REL HUMID = 70 %  
 ( ) 09 MAY 75  
 ( ) PAGE 16  
 ( ) NOISE SOURCE/SUBJECT:  
 ( ) OPERATION:  
 ( ) IDLE POWER  
 ( ) 50% RPM  
 ( ) BOTH ENGINES  
 ( ) FREE FLOW  
 ( ) T-2C AIRCRAFT  
 ( ) J85-GE-4A ENGINE  
 ( ) FAR FIELD NOISE



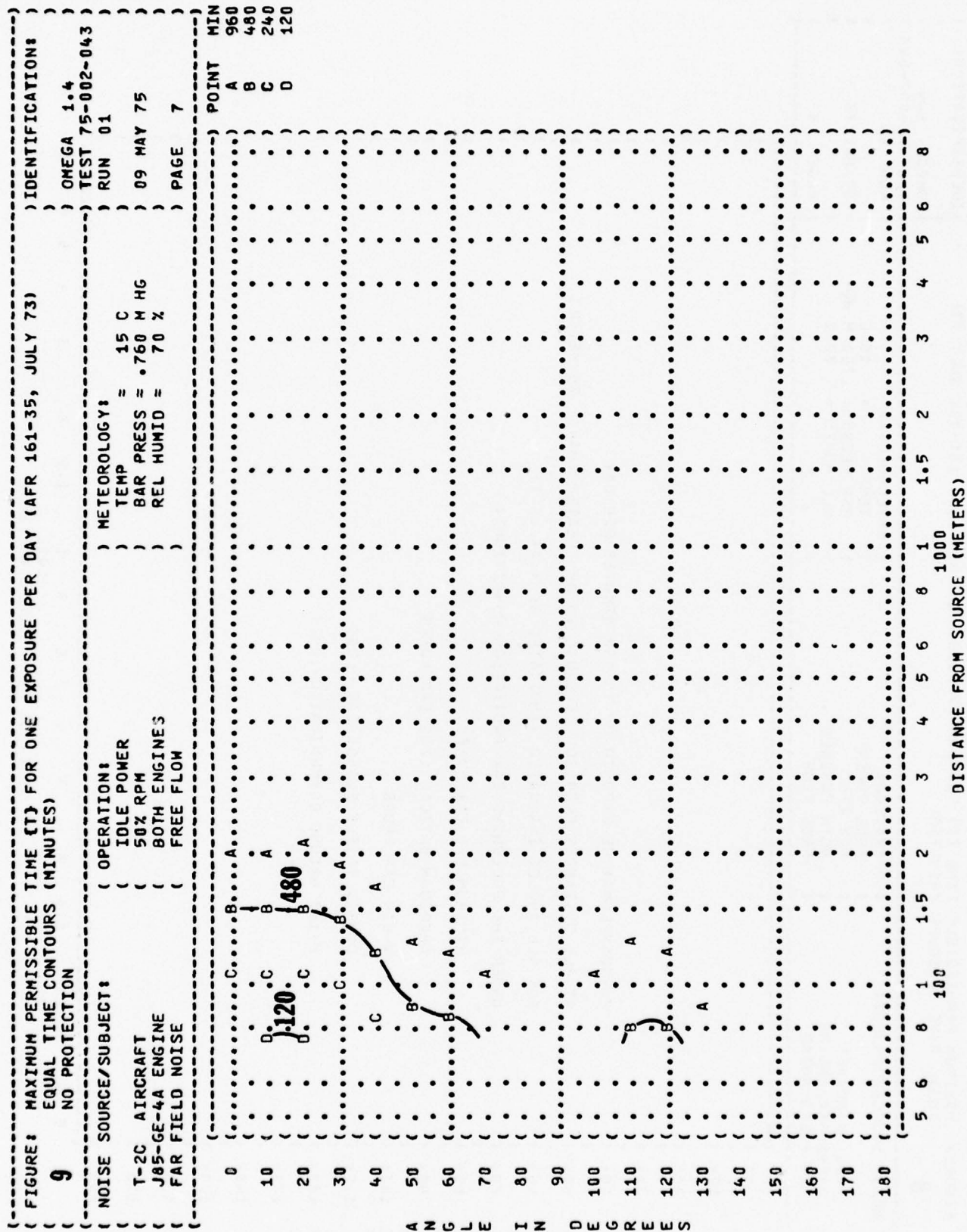












```
(-----)
( FIGURE: MAXIMUM PERMISSIBLE TIME {T} FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION:
(      9     EQUAL TIME CONTOURS (MINUTES) )
(-----)
( NOISE SOURCE/SUBJECT: ) OPERATION: ) METEOROLOGY:
( T-2C AIRCRAFT ) IDLE POWER ) TEMP = 15 C )
( J85-GE-4A ENGINE ) 50% RPM ) BAR PRESS = .760 M HG )
( FAR FIELD NOISE ) BOTH ENGINES ) REL HUMID = 70 % )
( FREE FLOW ) ) PAGE 8 )
(-----)
```

0<
10<
20<
30<
40<
50<
60<
70<
80<
90<
100<
110<
120<
130<
140<
150<
160
170
180

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY  
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS

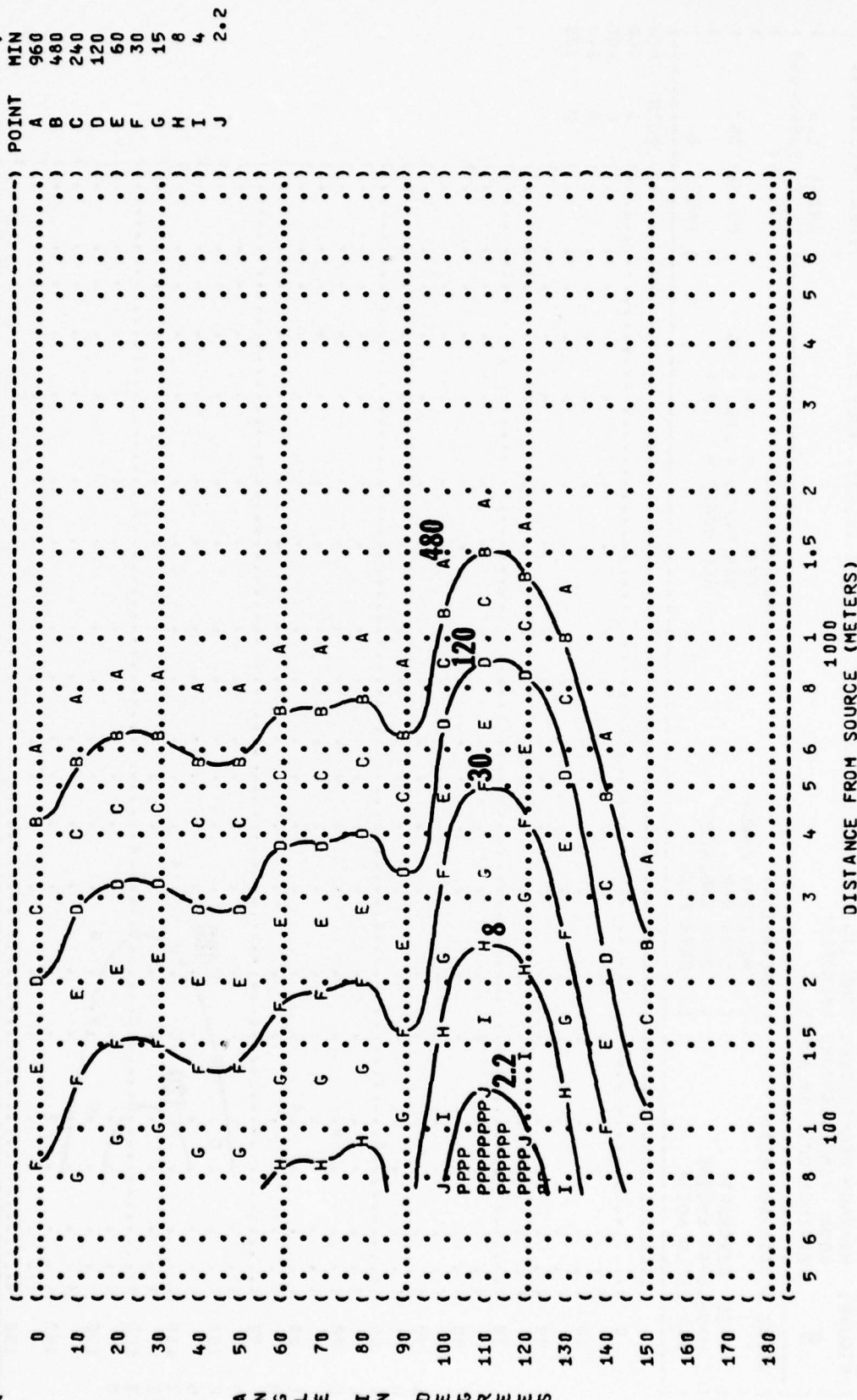
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

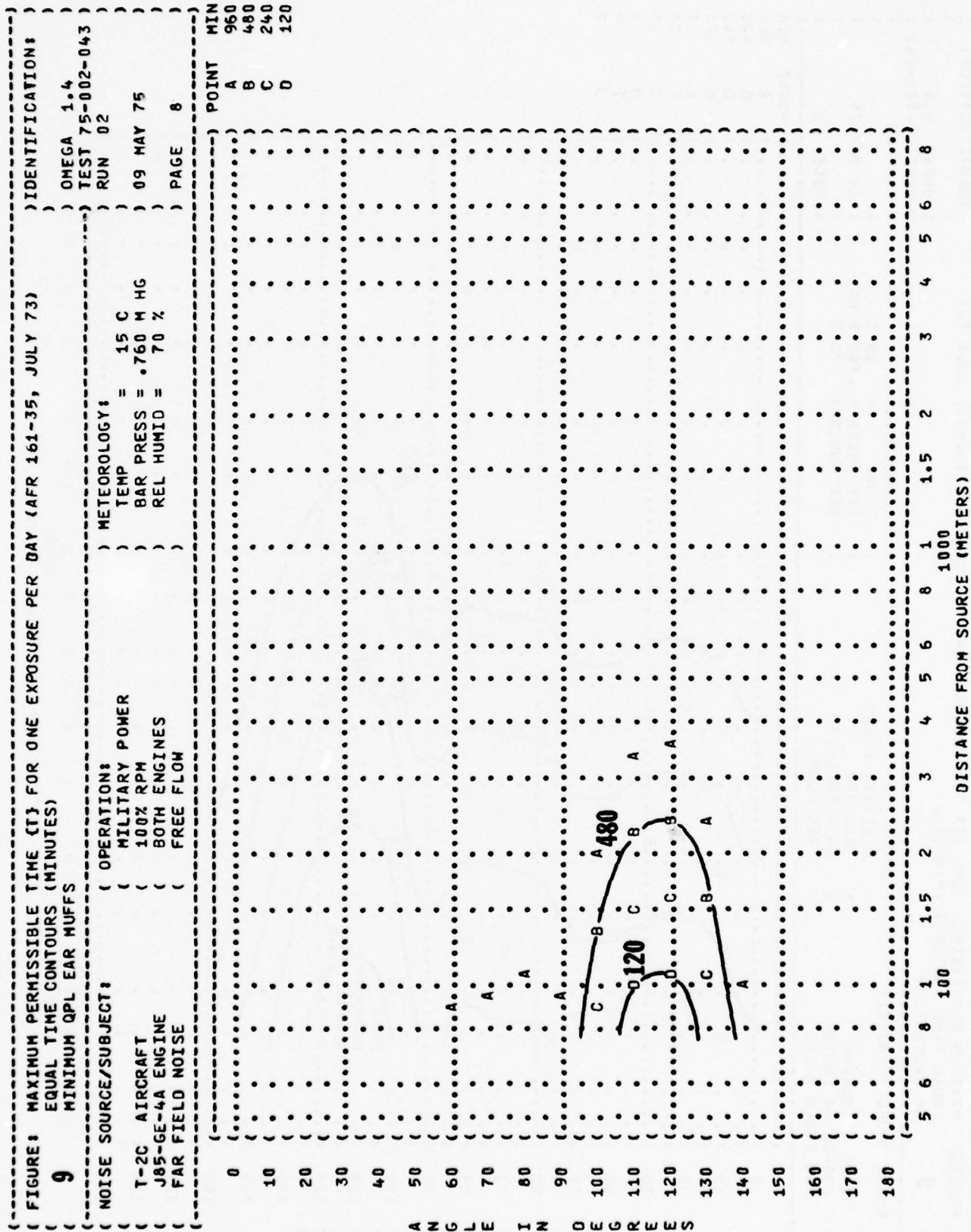
MINIMUM QPL EAR MUFFS  
AMERICAN OPTICAL 1700 EAR MUFFS  
V-51R EAR PLUGS  
COMFIT TRIPLE FLANGE EAR PLUGS  
H-133 GROUND COMMUNICATION UNIT

DISTANCE FROM SOURCE (METERS)

```
(-----)
( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )
(    9      EQUAL TIME CONTOURS (MINUTES) ) )
(     NO PROTECTION ) )
(-----)
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )
(   ( OPERATION: ) TEMP = 15 C ) )
(   ( MILITARY POWER ) BAR PRESS = .760 M HG ) )
(   ( 100% RPM ) REL HUMID = 70 % ) )
(   ( BOTH ENGINES ) ) )
(   ( FREE FLOW ) ) )
( T-2C AIRCRAFT ) )
( J85-GE-4A ENGINE ) )
( FAR FIELD NOISE ) PAGE 7 )
(-----)
```



**ADDITIONAL EAR PROTECTION REQUIRED.**





	MIN	POINT
0	960	A
10	480	B
	240	C

[illegible]



1



1000

100

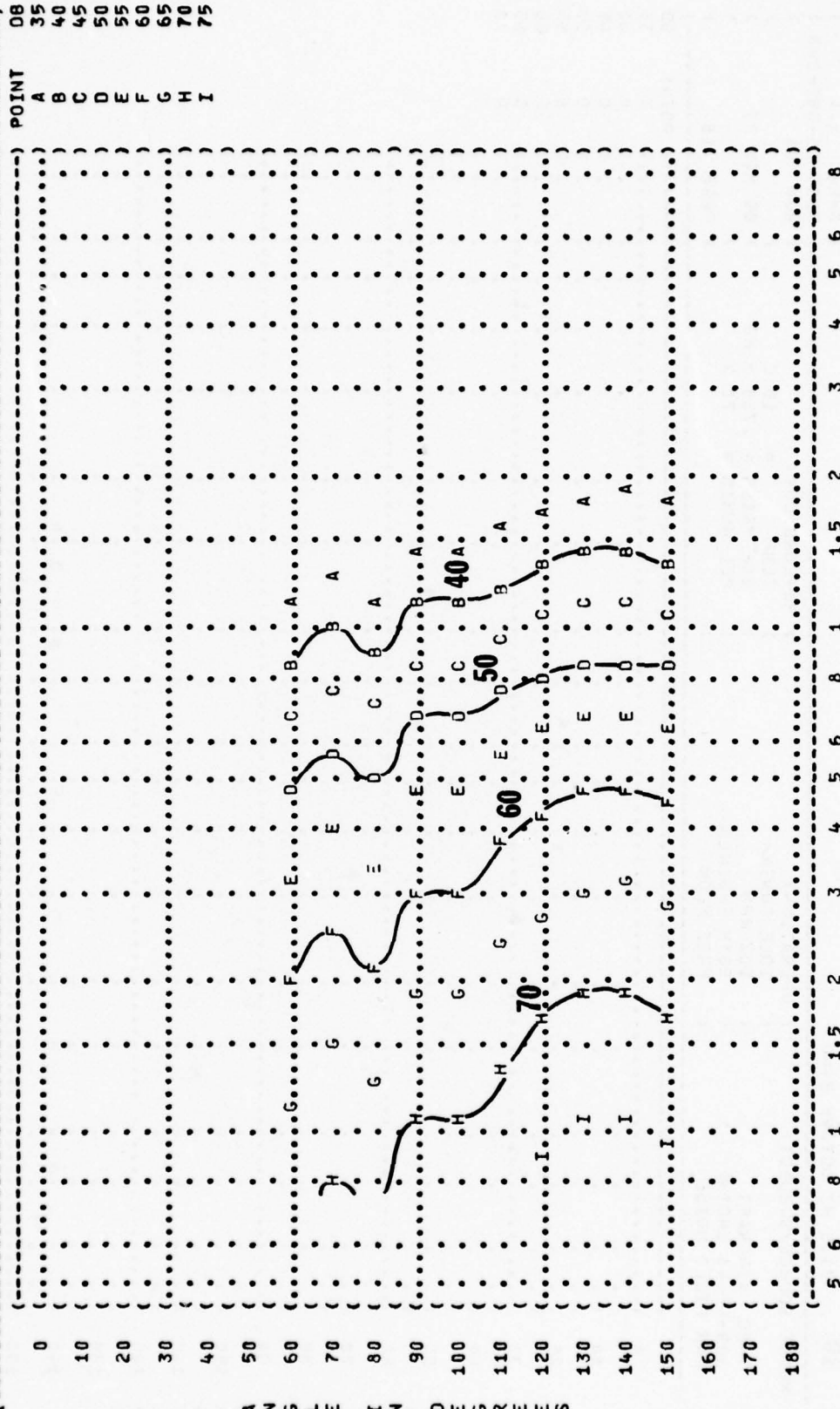




FIGURE	SOUND PRESSURE LEVEL EQUAL LEVEL CONTOURS (DB)	IDENTIFICATION
10	31.5 HZ OCTAVE BAND	OMEGA 1.4
		TEST 75-082-043
NOISE SOURCE/SUBJECT	METEOROLOGY	RUN 01
OPERATION:	TEMP = 15 C	
IDLE POWER	BAR PRESS = .760 M HG	
50% RPM	REL HUMID = 70 %	09 MAY 75
BOTH ENGINES		
FREE FLOW		PAGE 18
T-2C AIRCRAFT		
J85-GE-4A ENGINE		
FAR FIELD NOISE		

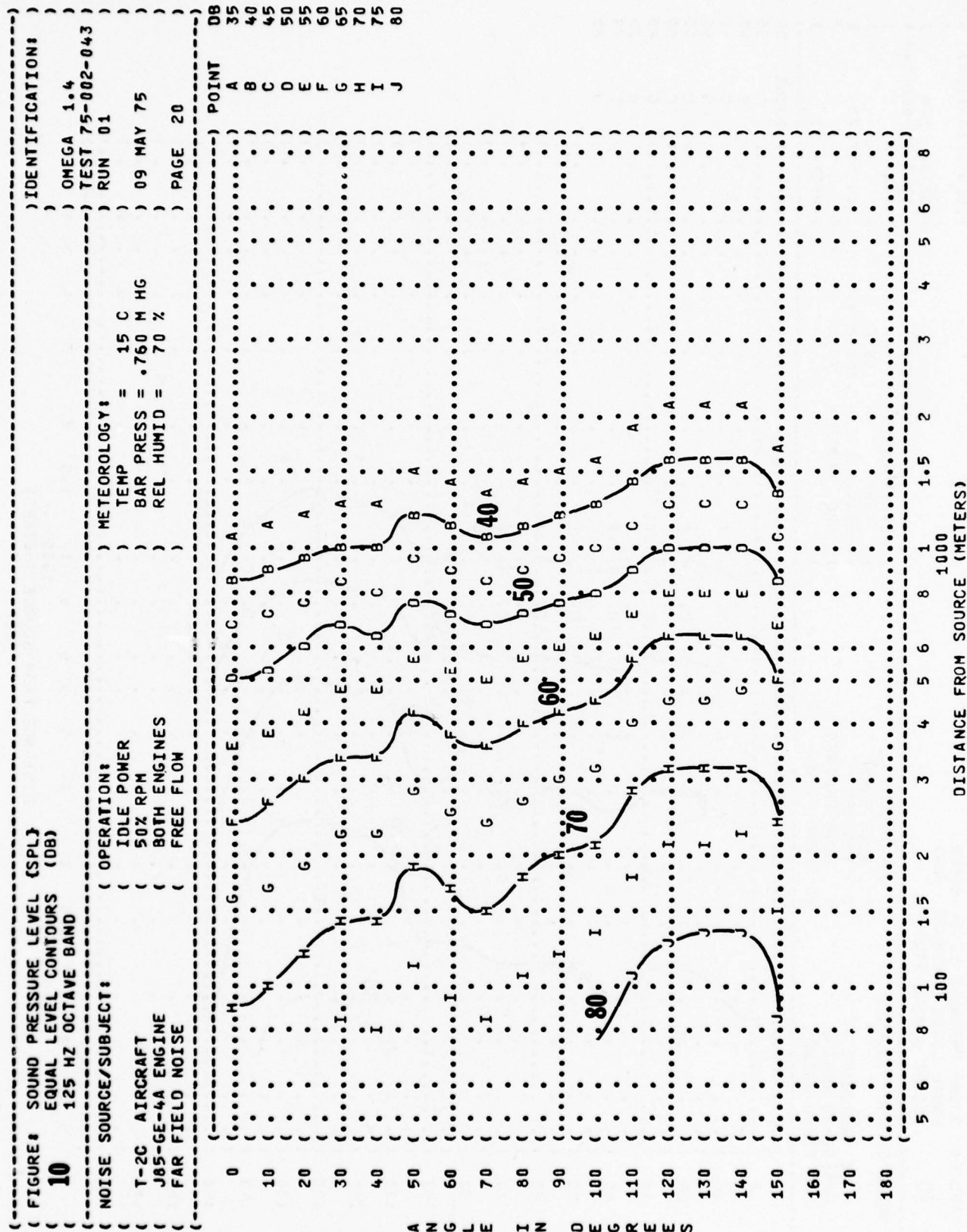
[illegible]

( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( **10** 63 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( IDLE POWER  
 ( ( 50% RPM  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-2C AIRCRAFT  
 ( J85-GE-4A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( RUN 01  
 ( 09 MAY 75  
 ( PAGE 19  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-043  
 (

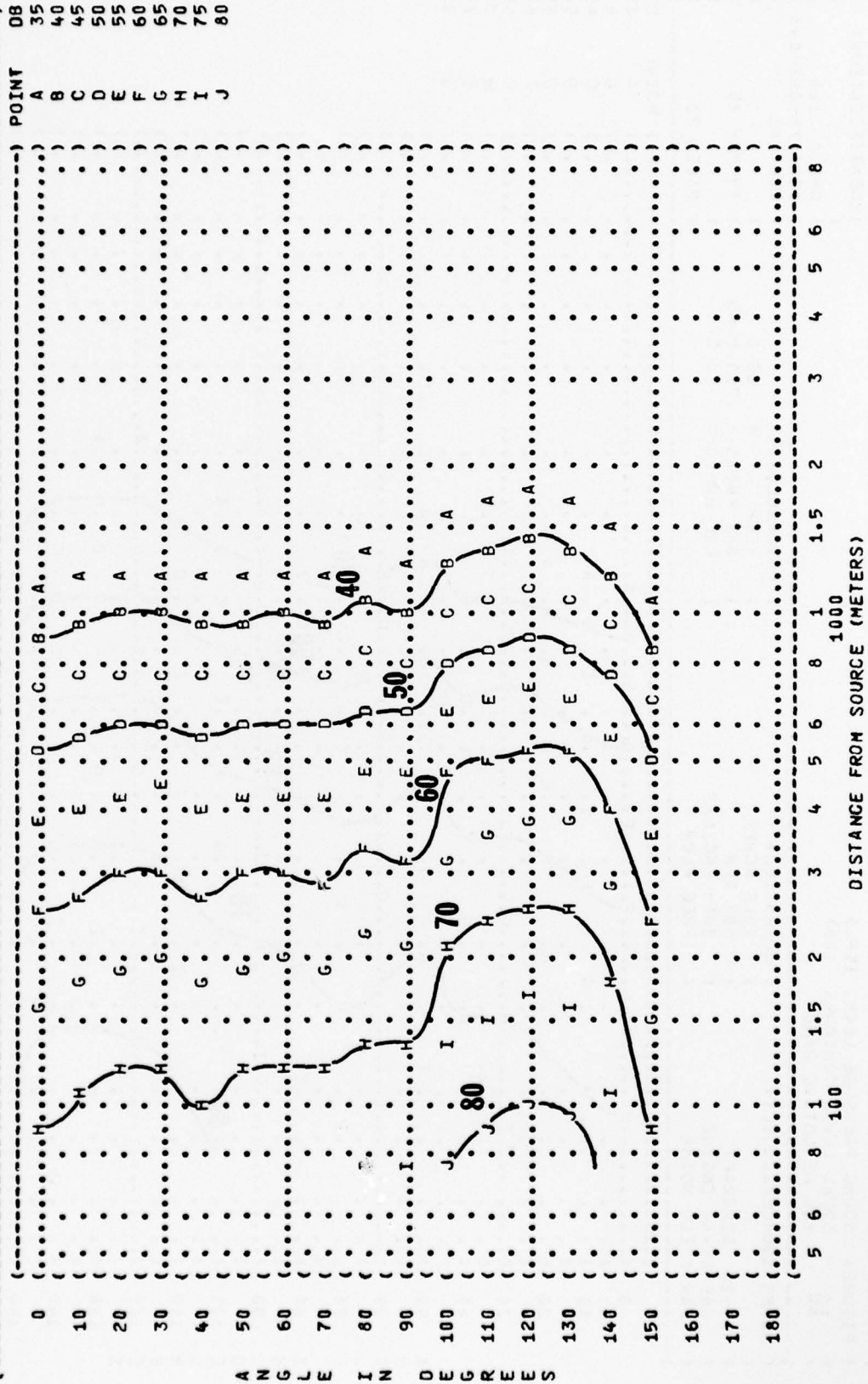


DISTANCE FROM SOURCE (METERS)

A N G L E I N D E G R E E S

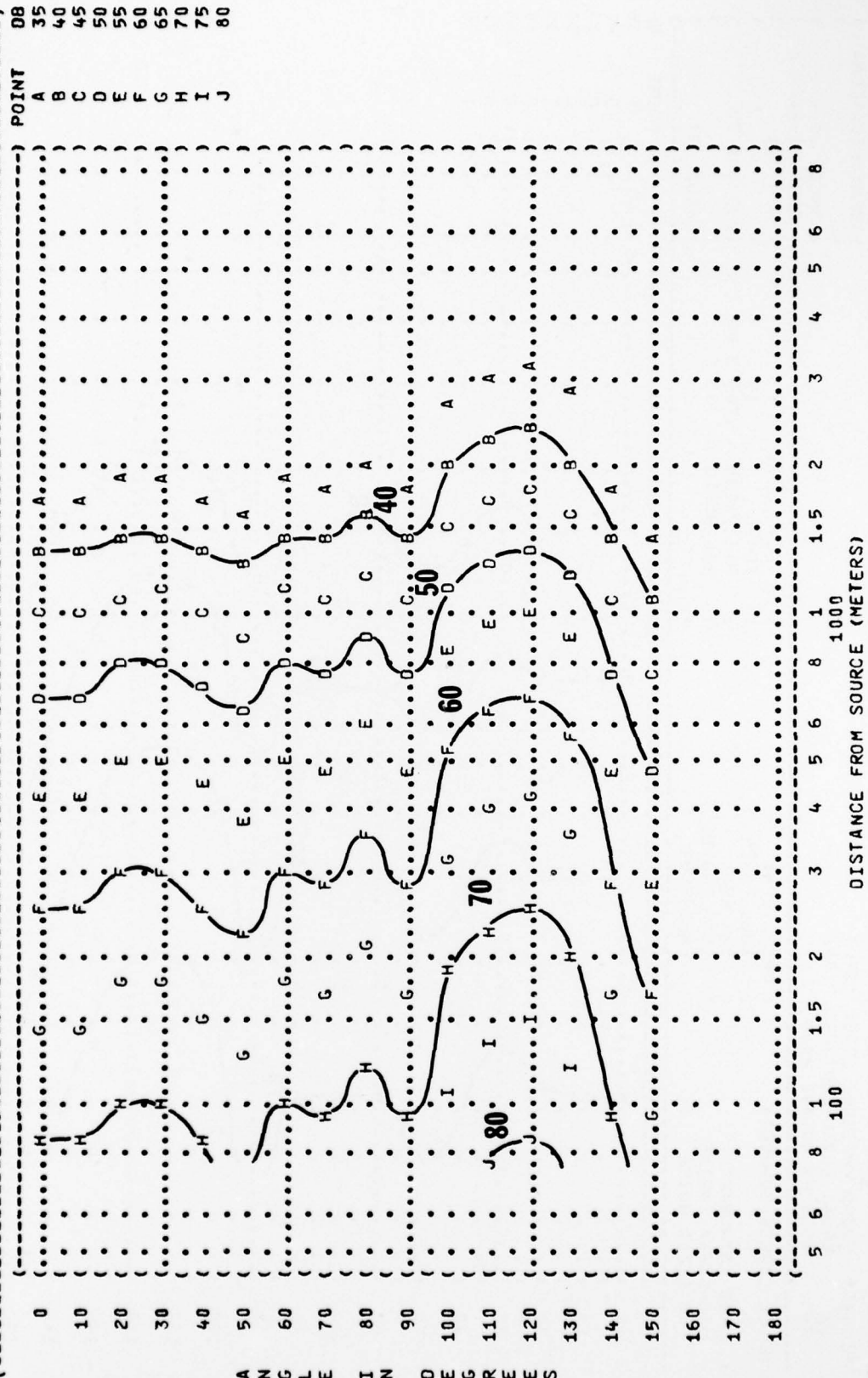


( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 10 250 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( IDLE POWER  
 ( ( 50% RPM  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-2C AIRCRAFT  
 ( J85-GE-4A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( PAGE 21  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-043  
 ( RUN 01  
 ( 09 MAY 75  
 ( )



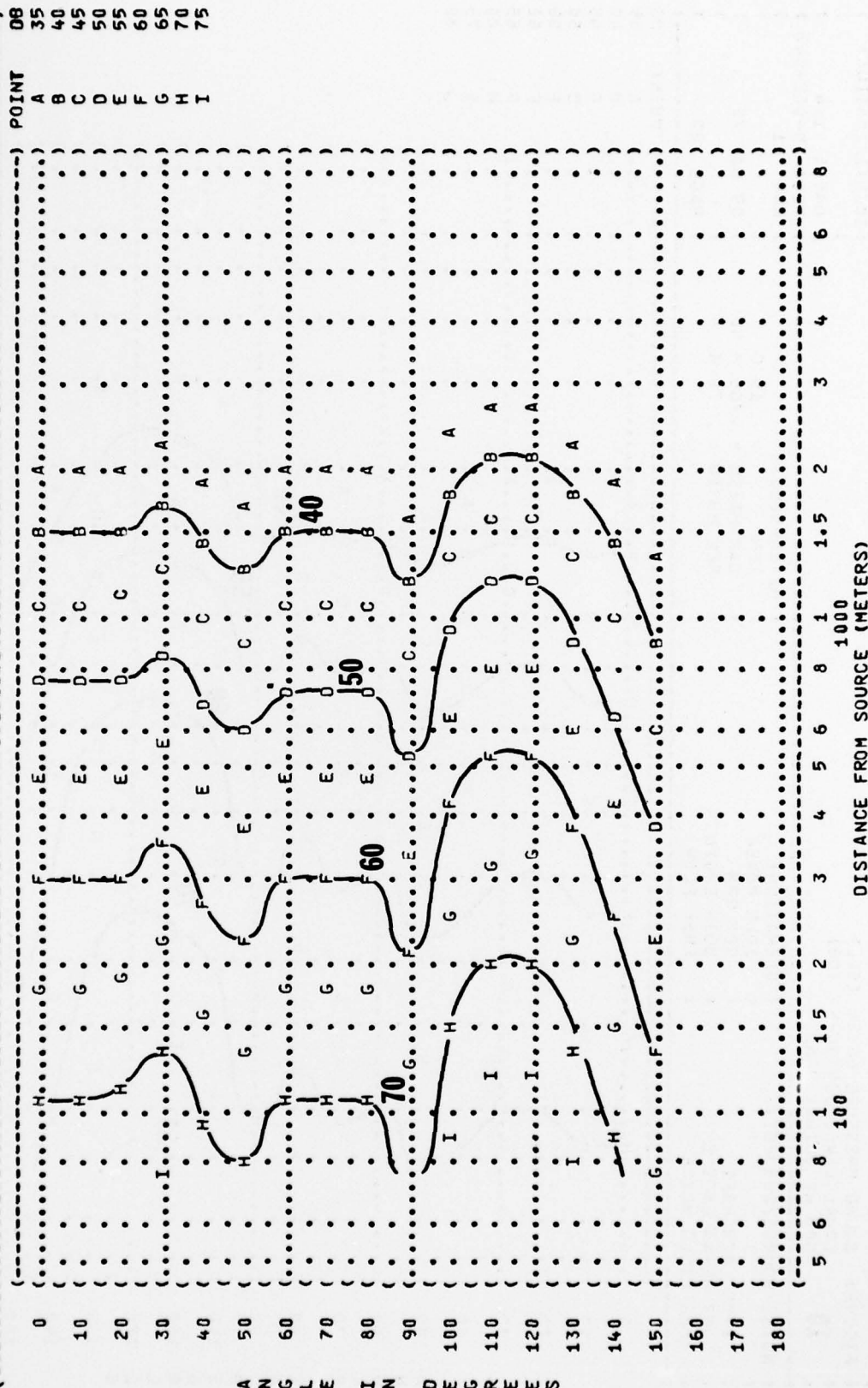


( ( FIGURE: SOUND PRESSURE LEVEL {SPL}  
 ( ( EQUAL LEVEL CONTOURS (DB)  
 ( ( **10** 500 HZ OCTAVE BAND  
 ( ( NOISE SOURCE/SUBJECT:  
 ( ( ( OPERATION:  
 ( ( ( IDLE POWER  
 ( ( ( 50% RPM  
 ( ( ( BOTH ENGINES  
 ( ( ( FREE FLOW  
 ( ( T-2C AIRCRAFT  
 ( ( J85-GE-4A ENGINE  
 ( ( FAR FIELD NOISE  
 ( ( METEOROLOGY:  
 ( ( TEMP = 15 C  
 ( ( BAR PRESS = .760 M HG  
 ( ( REL HUMID = 70 %  
 ( ( IDENTIFICATION:  
 ( ( OMEGA 1.4  
 ( ( TEST 75-002-043  
 ( ( RUN 01  
 ( ( 09 MAY 75  
 ( ( PAGE 22



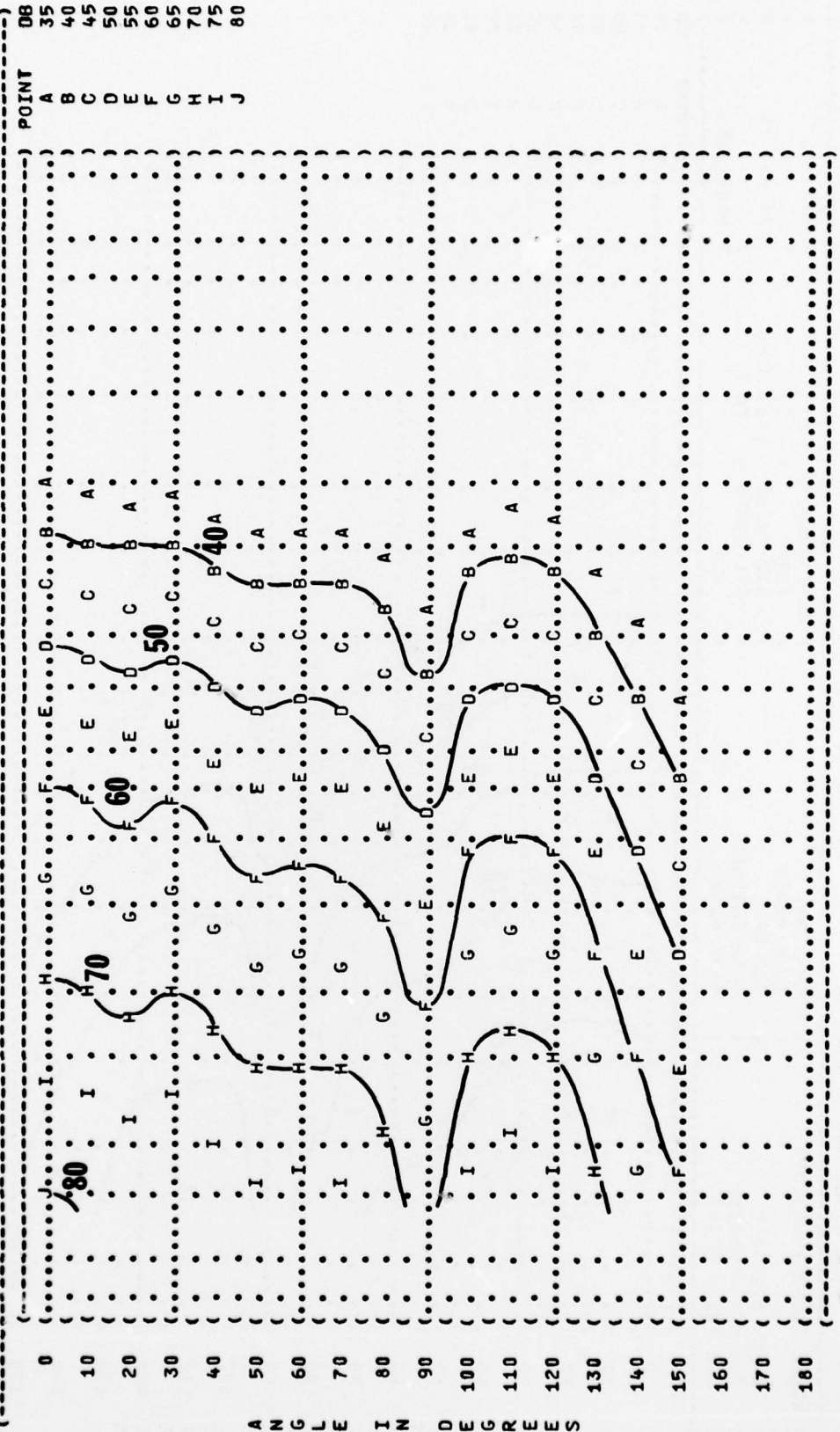
A N G L E I N D E G R E E S

POINT	08
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75



AZUL H DUEDEWEN

( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 10 2000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( T-2C AIRCRAFT  
 ( J85-GE-4A ENGINE  
 ( FAR FIELD NOISE  
 ( OPERATION:  
 ( IDLE POWER  
 ( 50% RPM  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-043  
 ( RUN 01  
 ( 09 MAY 75  
 ( PAGE 24



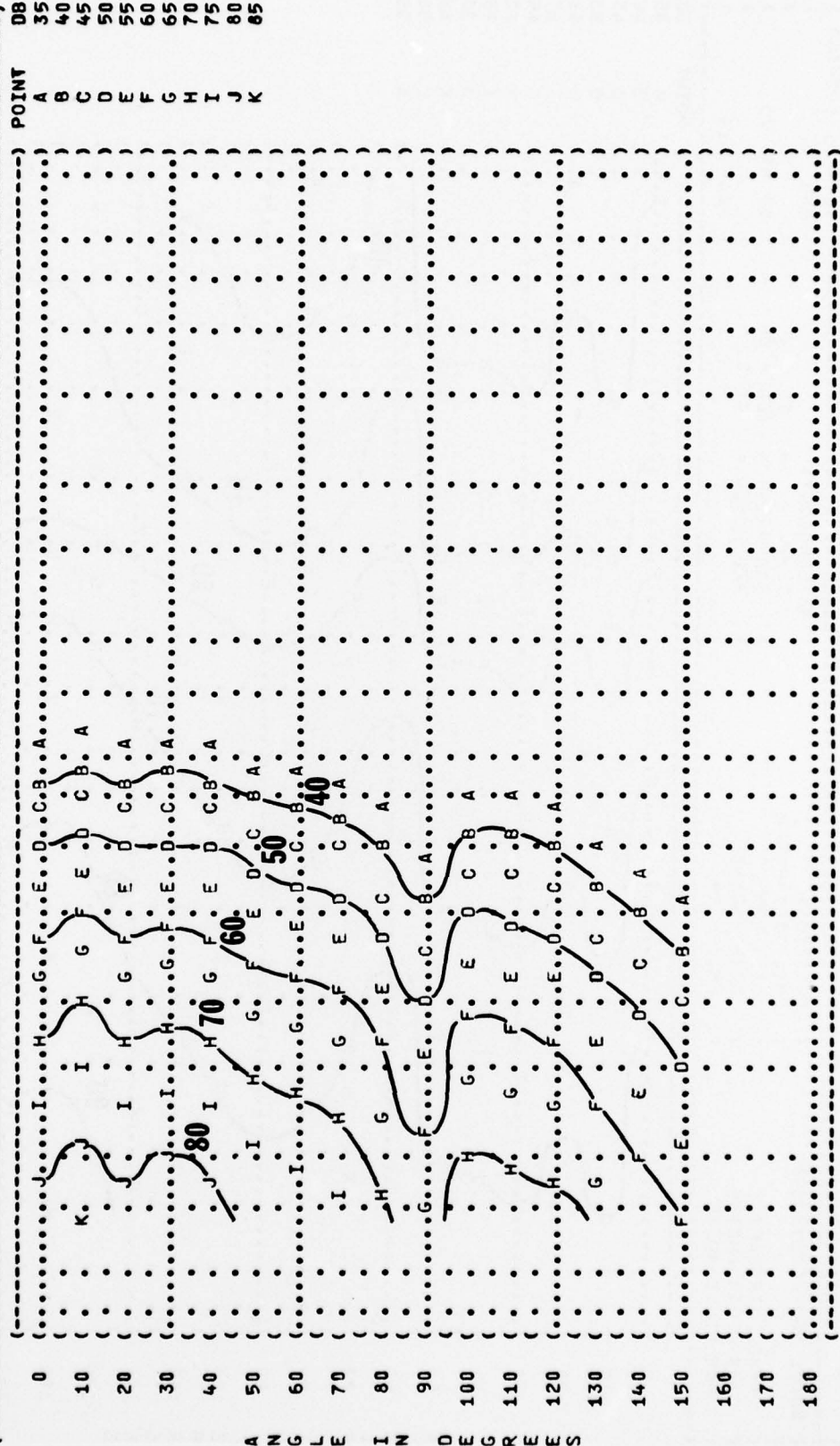
DB  
 35  
 40  
 45  
 50  
 55  
 60  
 65  
 70  
 75  
 80  
 POINT  
 A  
 B  
 C  
 D  
 E  
 F  
 G  
 H  
 I  
 J  
 DISTANCE FROM SOURCE (METERS)  
 5 6 8 1 1.5 2 3 4 5 6 8 100 1000







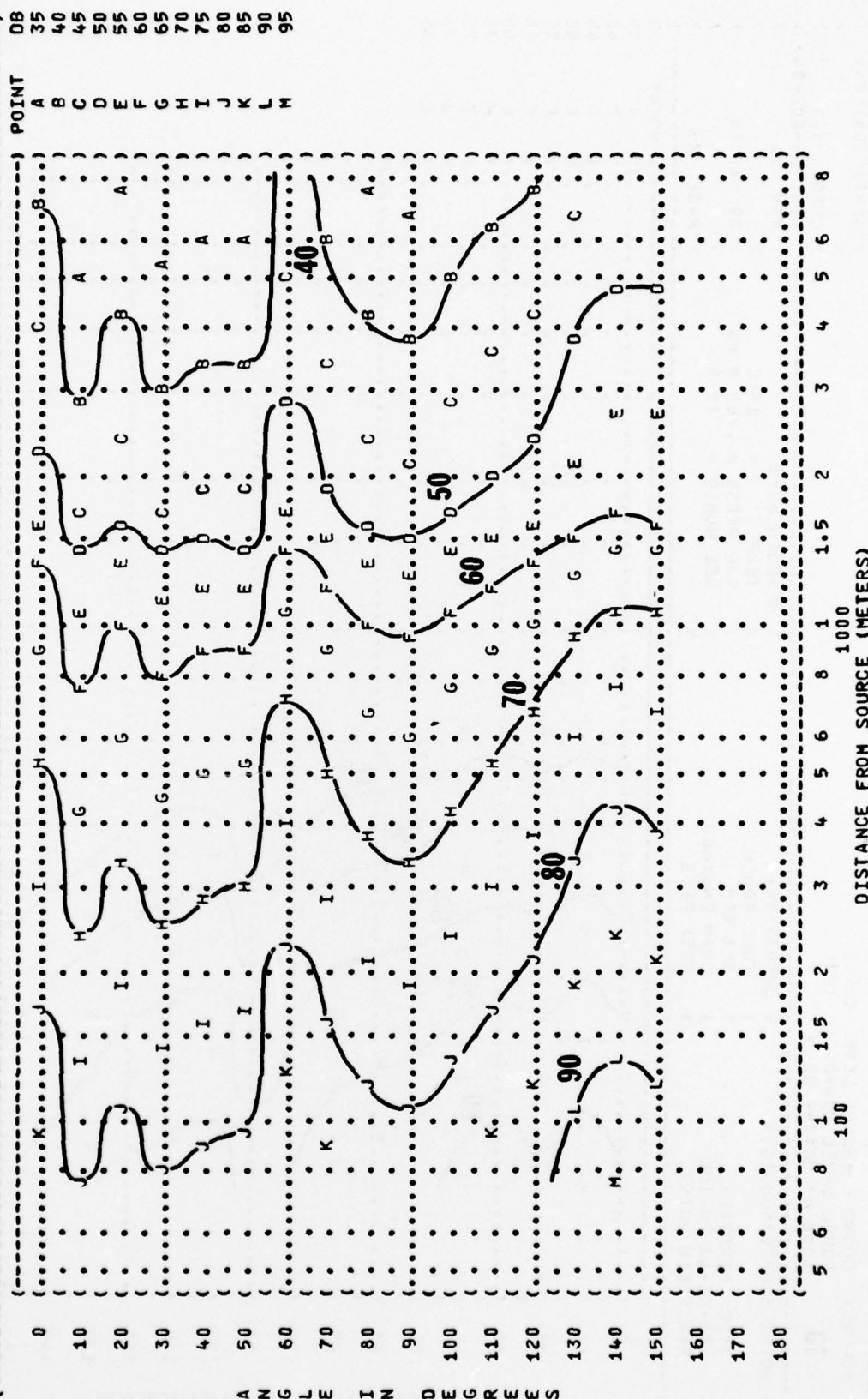
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 10 8000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( T-2C AIRCRAFT  
 ( J85-GE-4A ENGINE  
 ( FAR FIELD NOISE  
 ( OPERATION:  
 ( IDLE POWER  
 ( 50% RPM  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-043  
 ( RUN 01  
 ( 09 MAY 75  
 ( PAGE 26



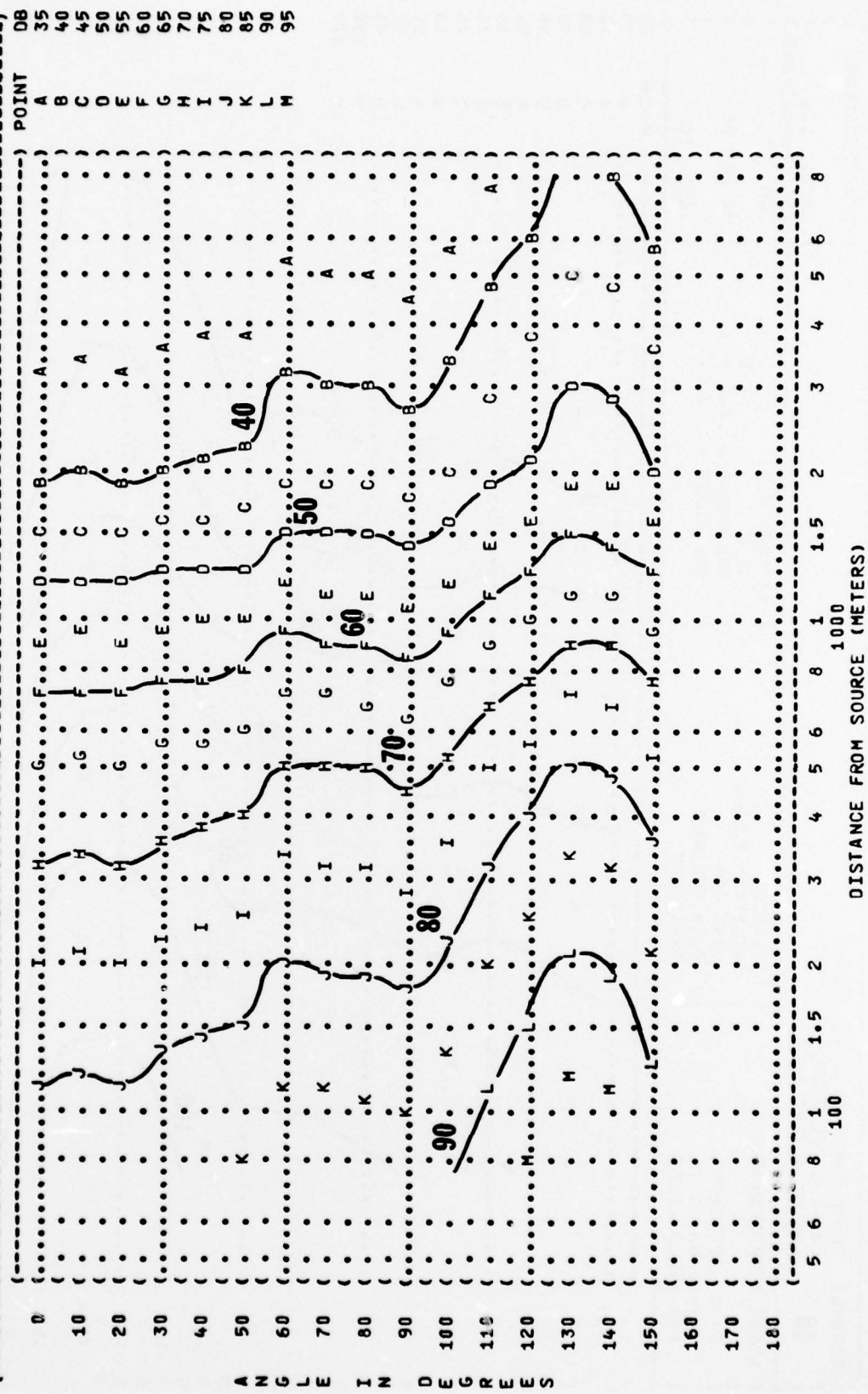
ANGLE IN DEGREES

FIGURE: SOUND PRESSURE LEVEL (SPL)  
 10 EQUAL LEVEL CONTOURS (DB)  
 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 ( MILITARY POWER ) TEMP = 15 C )  
 ( 100% RPM ) BAR PRESS = .760 M HG )  
 ( BOTH ENGINES ) REL HUMID = 70 % )  
 ( FREE FLOW ) )  
 T-2C AIRCRAFT )  
 J85-GE-4A ENGINE ) 09 MAY 75 )  
 FAR FIELD NOISE ) PAGE 18 )



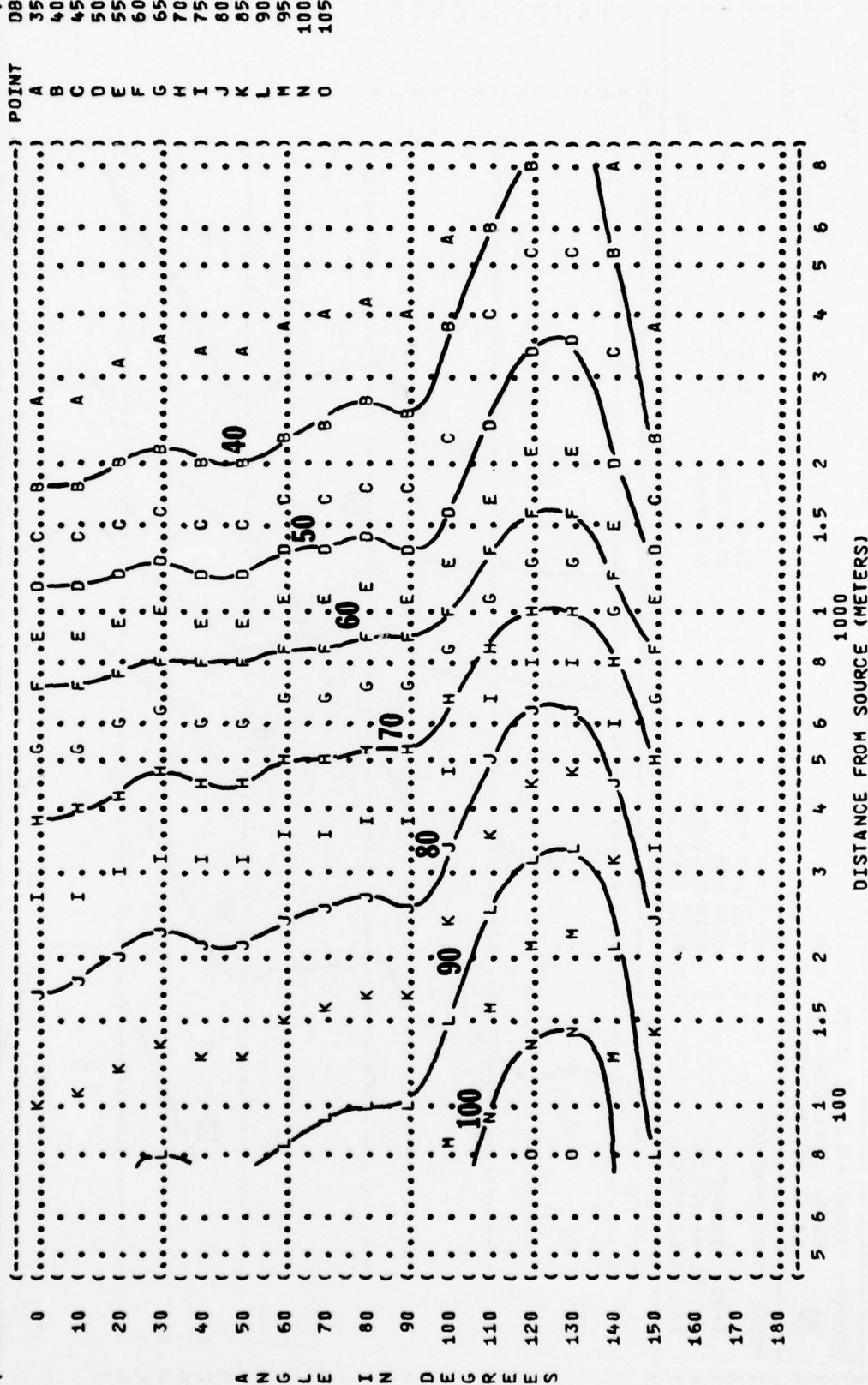
( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( EQUAL LEVEL CONTOURS (DB) )  
 ( 10 63 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-2C AIRCRAFT )  
 ( J85-GE-4A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MILITARY POWER )  
 ( 100% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-043 )  
 ( RUN 02 )  
 ( 09 MAY 75 )  
 ( PAGE 19 )



A N G L E I N D E G R E E S



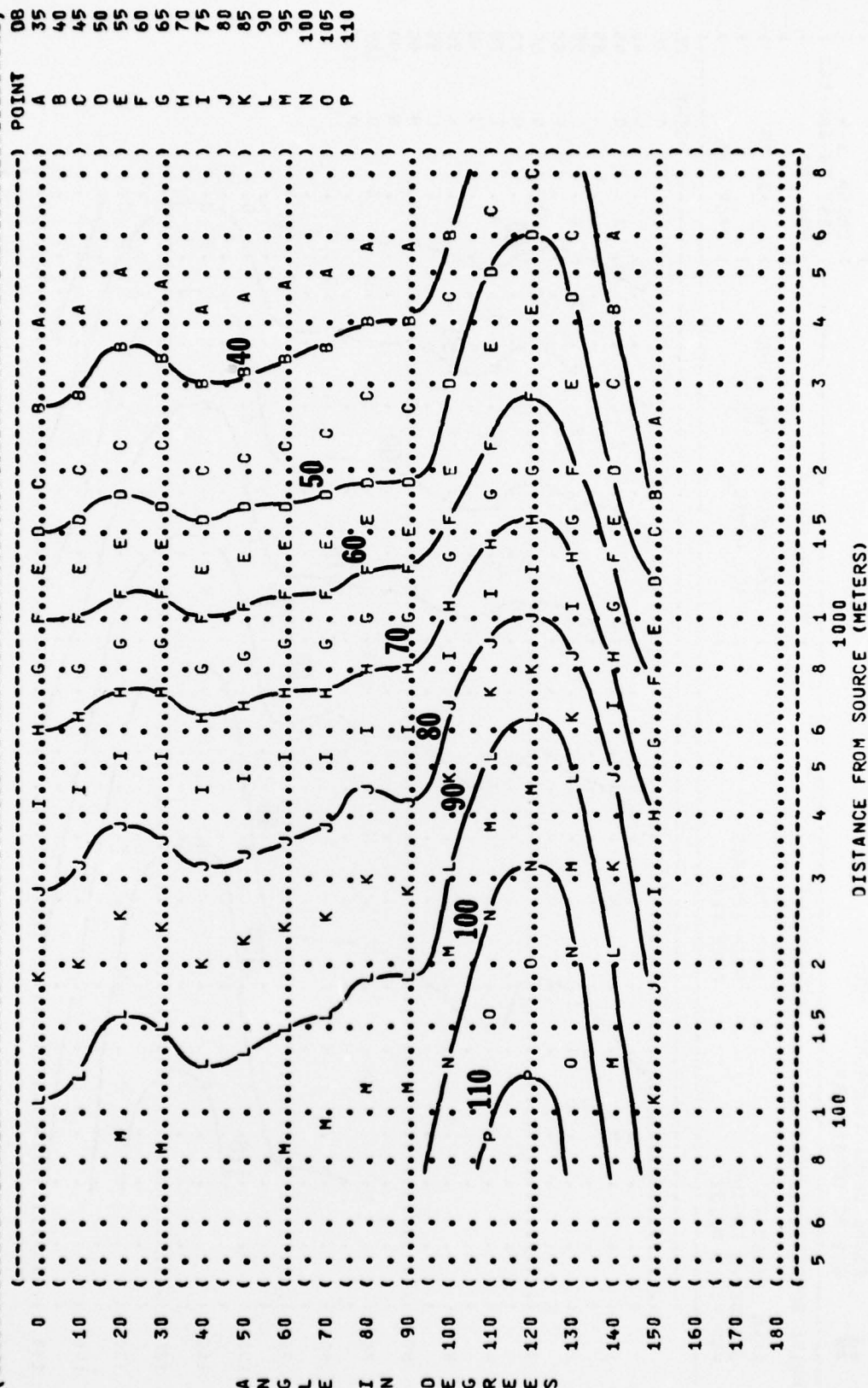
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 10 EQUAL LEVEL CONTOURS (DB)  
 ( 125 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( T-2C AIRCRAFT  
 ( J85-GE-4A ENGINE  
 ( FAR FIELD NOISE  
 ( OPERATION:  
 ( MILITARY POWER  
 ( 100% RPM  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-043  
 ( RUN 02  
 ( 09 MAY 75  
 ( PAGE 20



A N G L E I N D E G R E E S



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 10 250 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( T-2C AIRCRAFT ( MILITARY POWER  
 ( J85-GE-4A ENGINE ( 100% RPM  
 ( FAR FIELD NOISE ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( METEOROLOGY: ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION: ( OMEGA 1.4  
 ( TEST 75-002-043  
 ( RUN 02  
 ( 09 MAY 75  
 ( PAGE 21



( FIGURE 4 SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 10 500 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( MILITARY POWER  
 ( ( 100% RPM  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-2C AIRCRAFT  
 ( J85-GE-4A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-043  
 ( RUN 02  
 ( 09 MAY 75  
 ( PAGE 22

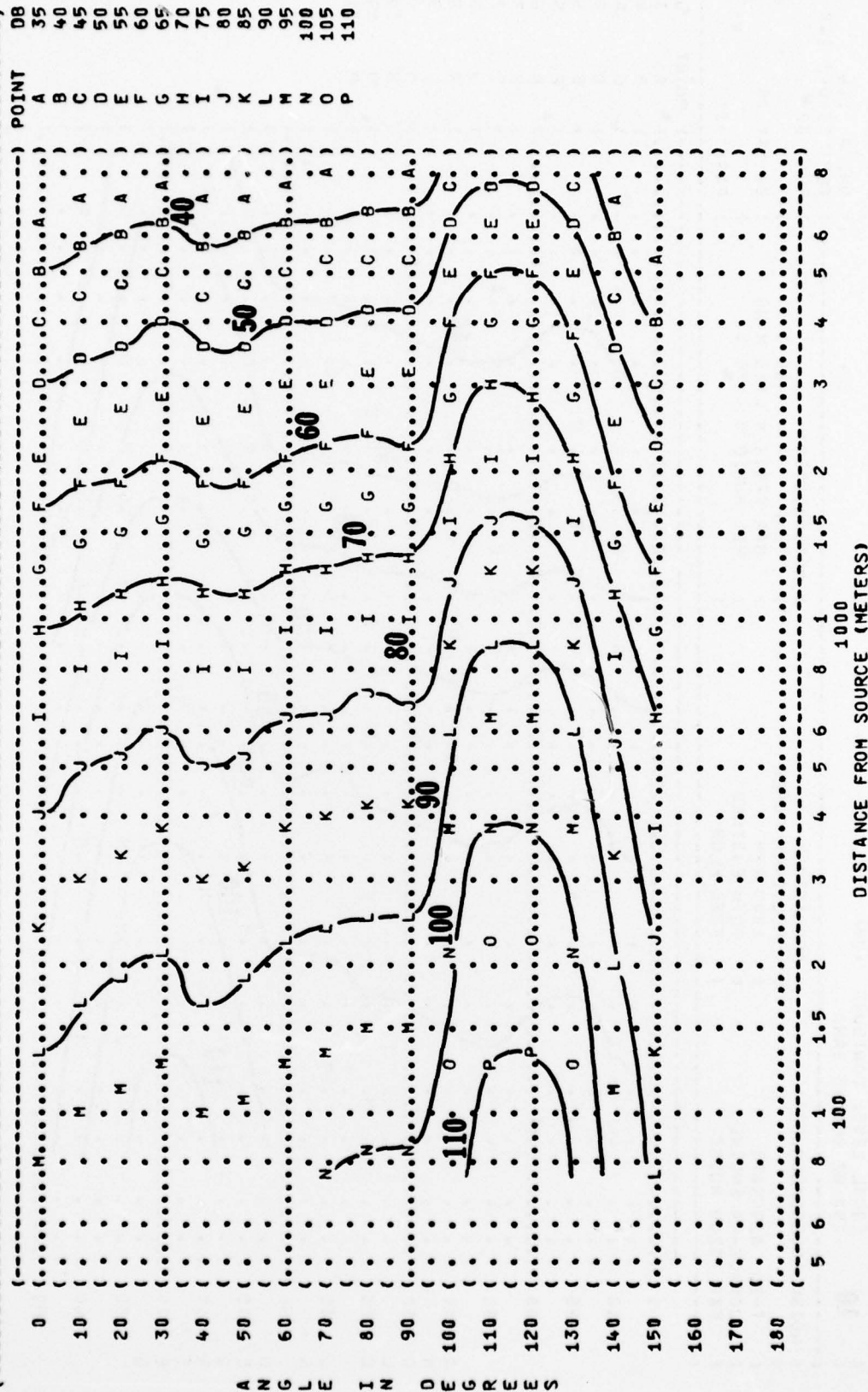






FIGURE 1 SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
2000 HZ OCTAVE BAND

10

NOISE SOURCE/SUBJECT:

T-2C AIRCRAFT  
J85-GE-4A ENGINE  
FAR FIELD NOISE

OPERATION:

MILITARY POWER  
100% RPM  
BOTH ENGINES  
FREE FLOW

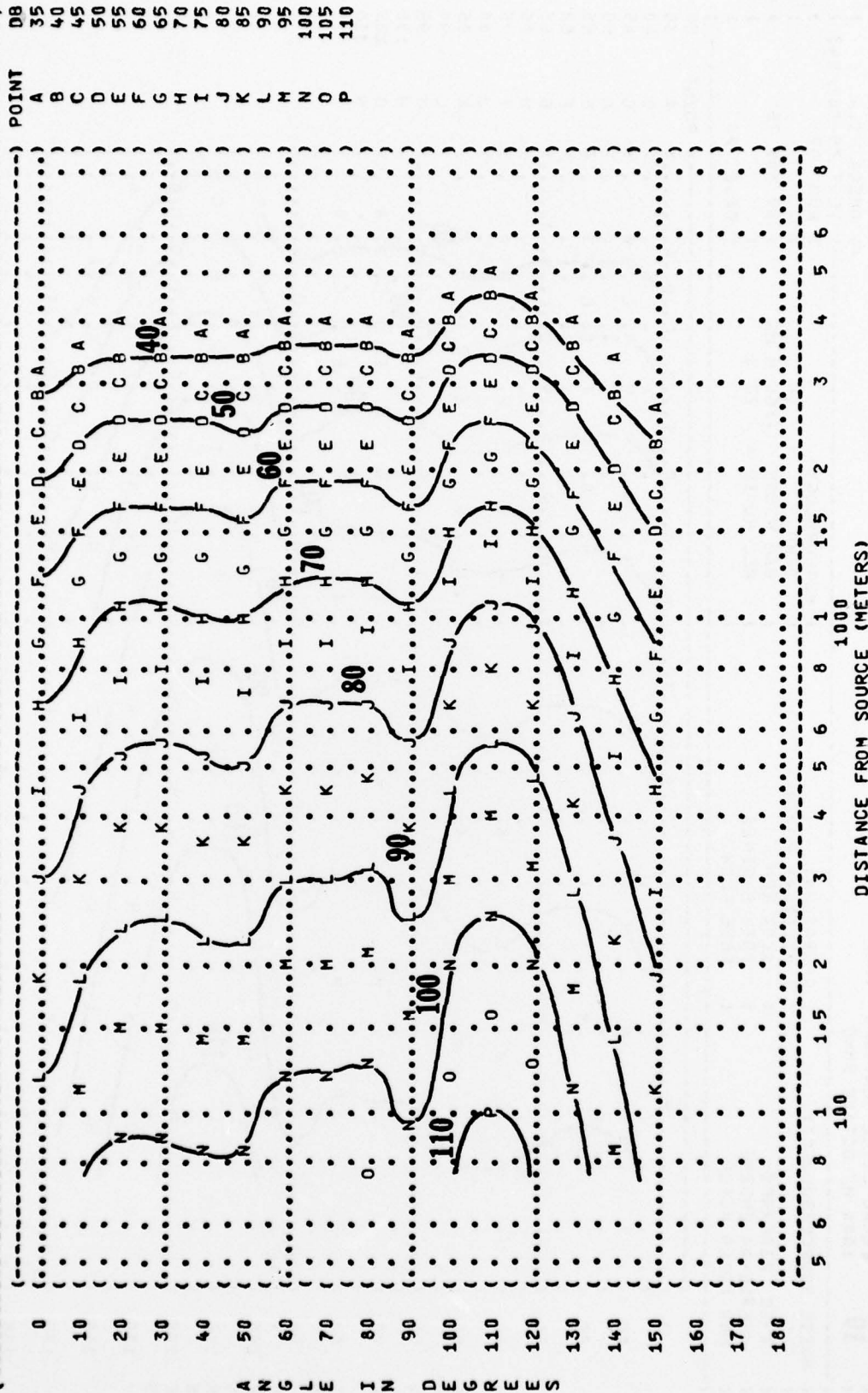
METEOROLOGY:

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

IDENTIFICATION:

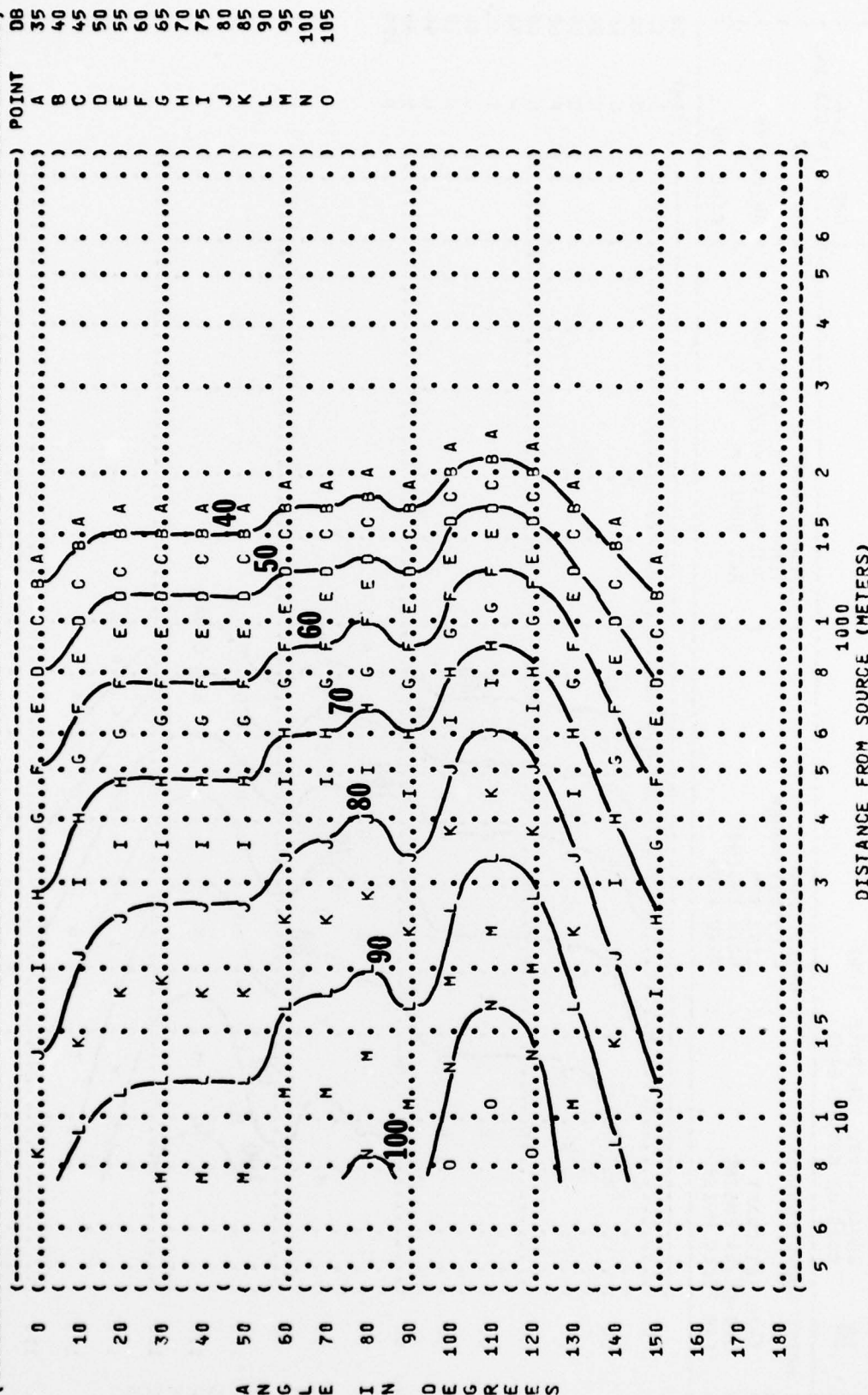
OMEGA 1.4  
TEST 75-002-043  
RUN 02

PAGE 24





( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 10 4000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( T-2C AIRCRAFT ( MILITARY POWER  
 ( J85-GE-4A ENGINE ( 100% RPM  
 ( FAR FIELD NOISE ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( PAGE 25  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-043  
 ( RUN 02  
 ( 09 MAY 75  
 ( )



A N G L E I N D E G R E E S

( ) FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( ) EQUAL LEVEL CONTOURS (DB)  
 ( ) 10 8000 HZ OCTAVE BAND  
 ( ) NOISE SOURCE/SUBJECT:  
 ( ) T-2C AIRCRAFT  
 ( ) J85-GE-4A ENGINE  
 ( ) FAR FIELD NOISE  
 ( ) OPERATION:  
 ( ) MILITARY POWER  
 ( ) 100% RPM  
 ( ) BOTH ENGINES  
 ( ) FREE FLOW  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-043  
 ( ) RUN 02  
 ( ) 09 MAY 75  
 ( ) PAGE 26

